The Journal of the
American Medical Association

Published under the Auspices of the Board of Trustees

Vol. LVII, No. 13 CHICAGO, ILLINOIS September 23, 1911

THE EXPERIMENTAL METHOD: ITS INFLUENCE ON THE TEACHING OF MEDICINE [*]

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The phase of experimental medicine which I am about to discuss is "Experimental Medicine: its methods, what it has accomplished; the problems before it; and what it may hope to do in the future." I intend to point out, at the risk of being misunderstood, the importance of the experimental method in the everyday work of the student and the teacher of medicine; and how, if conscientiously applied, it may thus exert a powerful influence in the development of the science of clinical medicine.

It is my profound conviction that the greatest fault in our medical teaching is the failure of the majority of teachers to practice, when in actual contact with the students, those scientific methods which they recommend in theory, and which some of them vigorously apply in their own investigations. I would not have entered into this discussion if it were not that our product, our graduate in medicine, has been found wanting by the German finishing school. Prof. Graham Lusk, than whom there is no more fearless champion of scientific idealism, stated in a recent address that a friend was told by a prominent professor of medicine in a German university that the greater number of young Americans who came there to study were "no good." Twenty-five years ago such a statement would not have been surprising, but now, with our much-vaunted laboratory methods and our improved clinical teaching, the statement is, to say the least, discomfiting. The "greater number" of American students going abroad may be from the poorer schools, and if so, which hardly seems probable, the criticism is unjust to our schools of the better type. If, however, it represents the true condition, from the German point of view, then, as Lusk puts it, "our educational system is at fault. It cannot be that American intellect is inferior. The trouble lies in our system."

It is these statements which have crystallized my own misgivings as to the shortcomings of our methods of instruction. These shortcomings may occur in the laboratory work of the first two years or in the clinical work of the third and fourth years, but the teachers in the laboratory years are responsible for the point of view with which the student approaches the material of the clinician, and they should consider it not only a duty but a privilege and an opportunity of the greatest moment to train the student in method and in accuracy of observation.

Is this opportunity grasped by the man who sees his class only as it is seated in the amphitheater, who lectures four or five times a week and never or hardly ever goes into the laboratory where his students are at work? And what shall we say about the man who reads his lectures, the students acting the part of efficient stenographers, fearful of missing a word, because, without emphasis of important points, they must get every word for the necessary and inevitable cram? And then, most ludicrous of all, the man who lectures from his own text-book, his auditors not taking notes but underlining the text of the same book?

Complete, voluminous, detailed lectures may have been necessary in the days of poorly prepared students, but with our present requirements in physics, chemistry, biology and the languages they are unnecessary. The department head who inaugurates his week's work with a general summary of the character of the laboratory exercises of that period, emphasizes the important phases of the subject and suggests the matter to be read, can leave the details which take the time of the second, third, fourth and fifth lectures to the student himself and to amplification in the laboratory. Or, if this does not suffice in his mind to present the subject-matter properly, a second hour with the lantern is worth half a dozen formal lectures. At the end of the week, after the laboratory work is completed, a third hour, for a conference recitation, which he conducts personally, should clear up all doubtful points. In this recitation the men should not be marked; it should be an informal affair, with the sole object of determining the efficiency of the week's instruction and of the progress in the power of observation and deduction.

Complete presentation of a subject in a lecture, even though the facts be retained, stifles curiosity and inquiry, turns the interest of the student backward instead of forward, and retards the development of that scientific method of thought so satisfying as a part of one's mental equipment. Complete and voluminous lectures which discourage collateral reading and minimize individual laboratory work, force the student to consider the final examination to be the ultimate object of the course. In some schools the student is encouraged in this point of view by the establishment, often with the consent and approval of the head of the department, of extramural quizzes, which, given by assistants of the department, increase the income of the latter at the expense of the student's mental development.

Another fault of the lecture system is the not infrequent arrangement which allows the head of the department to consider lecturing his only duty and permits him to turn over the laboratory work to assistants. If the laboratory instruction is to be not merely a matter of perfunctory routine, but is to be used for training in the experimental method with the object of developing power in method and in observation, it becomes one of the most difficult forms of teaching, and no matter how adequately trained the assistants may be, the daily presence of the head of the department, if he have the proper point of view, is essential to the success of the laboratory instruction.

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[*] An address delivered at the Harvard Medical School, May 18, 1911, under the auspices of the Alpha Omega Alpha Honorary Medical Fraternity.

[*] Owing to the lack of space this paper has been reduced nearly half. The unabridged article is printed in pamphlet form and will be sent by the author, or by THE JOURNAL, on receipt of a stamped directed envelope.

Let us now turn to the instruction in the laboratory itself, where we should certainly expect to find experimental methods conscientiously practiced. We have every reason to be proud of the equipment and facilities of most of the laboratories in our better medical schools.

The guiding principle of laboratory instruction should be the practice of the "do it yourself" idea. Lectures, amphitheater demonstrations and recitations should, if time cannot otherwise be obtained, give way to actual individual work in the laboratory. Furthermore, the department head, without sacrificing the presentation of his subject as a training in method, should prominently place before the student its relation to other courses in the medical curriculum, and especially to the clinical work which is to follow.

Nearly all our laboratory courses offer opportunity for criticism from these two points of view. Anatomy, aside from the fault of overlecturing, is perhaps least at fault, for abundant material for dissection makes this course, if the material is properly utilized, an ideal one for the practice of the "do it yourself" method. The related subjects, histology and embryology, may, however, be criticized in that they are seldom taught in relation to one another or to gross anatomy, and practically never with a regard to the work in physiology and pathology which follows. Of the few exceptions, Huber's course at Michigan best illustrates how these subjects should be presented. Embryology forms the basis of the work in histology; the student studies cell division and the development of the germ layers, and as the tissues and organs are differentiated the histology of each is studied in adult tissues. Thus the structure of each adult tissue and organ is brought into relation on the one hand with its origin and its order of development, and on the other, by judicious correlative teaching, with important basic principles of pathology; as, for example, the general laws concerning the origin of tumors, or the similarity of the repair or regeneration of an adult tissue to the embryonic development of the same tissue, or the developmental explanation of the anatomy of hernia. These and other important fundamental principles can be taught better by the embryologist than by the pathologist.

Another neglected field is that on the border-line between histology and gross anatomy, which for the want of a better name may be called "semi-gross" anatomy. The well-trained student can from memory give a fairly accurate description of the relations and gross external appearance of an organ and also of its histologic structure, but he is at sea when asked to point out on the freshly cut surface of an organ its normal markings. The appearance of the Malpighian bodies of the spleen, of the glomeruli of the kidney, the differentiation of arteries or veins from the bronchi in the lung or from the bile-ducts in the liver are matters of which he knows nothing. His theoretical knowledge fails when put to the practical test.

It is, however, of the work in physiology, pathology, *bacteriology and pharmacology* that I wish especially to speak. The first and second of these sciences are concerned essentially with normal and abnormal functions the third with one phase of the etiology of altered function and the fourth with the treatment of abnormal function. They therefore lend themselves to teaching from the dynamic rather than from the static or descriptive point of view, and are peculiarly adapted to the procedures of the experimental method. These are subjects which offer the possibility of bringing the student closer to an understanding of the manifestations of disease, and the factors which cause and influence these manifestations, than any other group of subjects in the medical curriculum. Physiology and pathology should be so taught as to force the student and physician to think physiologically and not morphologically, as is usually the case. The close adherence of both of these sciences to the descriptive method may be explained historically in the case of physiology by the development of physiology by anatomists, physicists and chemists rather than by biologists in the broad sense. The influence of the descriptive anatomist is seen in the early association of histology with physiology; of the physicist in the early electrophysiology, and of the chemist in the early analytical trend of physiologic chemistry. Likewise, pathology, adopting the methods of anatomy, became a purely descriptive science, seeking the seat of disease and concerned with the appearance of diseased tissues.

In investigation, the descriptive point of view is now subordinate, but in teaching it still persists. The student in physiology, in many schools with well-equipped laboratories, never works with an animal higher than the frog. Such a course in electro-physiology, essentially a course in physics, with a few exercises devoted to the use of mechanical models and perhaps a few amphitheater demonstrations, is considered sufficient training for the work which soon follows, in the instruction, for example, in physical diagnosis. The student enters on the latter work, which many consider the most difficult part of their course, with no first-hand knowledge of the important phenomena of circulation and respiration, which might readily have been presented by the use of mammals. One of the most useful instruments of the physician, the stethoscope, of great value also in the teaching of physiology, is seldom utilized. In many courses the *physiology of respiration and circulation* is completed without the student having heard the respiratory murmur or the heart sounds. The physiology of the kidney, the pancreas and the ductless glands is taught by lecture only, or by an occasional amphitheater demonstration.

Bacteriology, one of the most modern of the medical sciences, suffers likewise from the descriptive method. It is, in the majority of schools, a course in the *descriptive* botany of the fungi. It is true that the student actually handles the bacteria, studies their morphology and observes their behavior in artificial media, but their behavior in the animal body is left to lectures. The all-important lessons of bacteriology—the problems of infection and immunity—the student has no opportunity to study at first hand. What a live subject bacteriology may be for the student is seen in those few courses in which he reproduces in animals the lesions caused by the micro-organisms which he studies, and carries out those experiments which illustrate the fundamental principles of immunity. He can have no better training in the experimental method than that which comes from following half a dozen different bacteria from pure culture through the lesions which each produces in an animal and back again to pure culture. Likewise, the experimental study of active and passive *immunity, even if the* latter be only the simple testing of the protective power of diphtheria antitoxin, is invaluable. If to these are added the practical study of hemolysins, agglutinins, precipitins and of the phenomena of hypersusceptibility, bacteriology as applied to medicine is actually taught. From the practical point of view, the training offered by animal inoculations is of the greatest importance for the proper appreciation of the principles of asepsis in surgery; while the work in immunity aids the student to grasp intelligently the pathology and therapy of the transmissible diseases.

It is a matter of great doubt if in the better schools to which students come with a general training in biology it is necessary to give as much time to the purely morphologic study which consumes so much time in the average course in bacteriology. Certainly this phase of the subject, with the abundance of excellent text-books which we possess, does not demand the number of lectures usually devoted to it. The present methods do not give the student an adequate general conception of the rôle bacteria play in disease, and of specific effects they have no knowledge which they can readily apply to their work in pathology.

And what is to be said of pathology? I consider pathology, as it is usually taught, the most forlorn course in the medical curriculum. Lectures in great abundance, illustrated by museum specimens enclosed in fluid and glass and sections of diseased tissues sandwiched between glass is the story in nine out of ten cases. Even when fresh material is supplied in satisfactory amount, a gap still remains—that great gap representing altered physiology. I do not wish to decry any means by which a knowledge of pathology may be presented to the student, but an adequate collection of specimens representing the gross and microscopic appearance of diseased tissues should, I believe, be considered as only the essential minimum of equipment. Neither do I wish to minimize the importance of morphologic study, for it is the cornerstone of that modern pathology on which sound diagnosis and rational therapy rest; but the teachers of men who are to spend their lives in the study of the manifestations of altered physiology should not magnify the morphologic aspect of pathology at the expense of the dynamic. This phase of my subject in so far as it refers to investigation has been very ably discussed from the point of view of the chemist by Prof. A. E. Taylor; and the possibilities of physiologic methods in teaching pathology to small groups of students have been clearly demonstrated by Prof. W. G. MacCallum. So ably have they presented their claims that I can add but little that is original. My personal experience may, however, be of some value as an illustration of the evolution of a point of view. Trained as a morphologist of the most uncompromising type, I became interested, after several years, in the methods of an experimental pathologist and gradually awakened to the importance of the investigation of altered function. A desire for a greater knowledge of the methods of physiology and chemistry followed. At first this new knowledge was utilized only in investigation but a troubled conscience soon led to its use in the teaching of pathology. At first, experimental demonstrations before the entire class were introduced here and there in my courses, but in such a fragmentary way that they were of no more value to the student than the usual set demonstration of the chemist. This year, for the first time, I found myself with sufficient space, equipment, time and assistants to inaugurate a systematic course in experimental pathology and pathologic physiology in such a manner that each student would get something out of it. Without going into the details I may say that by giving two hours a week to the course and dividing the class in two sections, each student of a class of ninety men had fourteen exercises of an hour each, and by presenting in each hour five different demonstrations simultaneously, no one demonstration group numbered more than nine men. That is, about seventy experimental procedures, phenomena or lesions, were shown each man, for each of which he had twelve minutes and was only one of a group of nine.

These demonstrations included the presentation of necrosis and the degenerations, inflammation and repair, blood-destruction and jaundice, thrombosis, embolism and infarction, certain lesions of the heart, lung, stomach and intestines, liver, pancreas and kidney, the problems of infection and immunity, of shock and hemorrhage, and the physiology of the ductless glands. Physiologic methods of graphic registration were used whenever possible, changes in the urine and other secretions demonstrated, and the methods of clinical diagnosis emphasized. A few details of some of the exercises may illustrate the advantages of this course. The pathology of blood-destruction and jaundice, the circulatory changes in heart disease, and the pathology of the pancreas are subjects always difficult for the student to grasp; and, moreover almost impossible of demonstration by morphologic methods. The exercises on these subjects may therefore serve as examples. Blood-destruction and jaundice were illustrated by five demonstrations: (1) the production of hemoglobinemia and hemoglobinuria by the administration of crotalus venom, and (2), the injection of hemolytic immune serum. The associated changes in the spleen and other organs were demonstrated, as was also the laking of the blood in centrifuged serum. The naked eye appearance of the urine was contrasted with that of (3) hematuria due to cantharidin, as were also the albumin content and sediment of the two types of urine, and the use of the spectroscope was demonstrated. By test-tube experiments the phenomena of (4) hemolysis and hemagglutination were explained, and thus the theory graphically brought into relation with the changes in the animal body; (5) obstructive jaundice due to ligation of the common bile-duct was shown, the urine of this animal contrasted with that of the hemoglobinuric animals as to the presence of bile and albumin, and by comparing these animals the clinical signs of obstructive and hemolytic jaundice were clearly shown by examination of the skin and conjunctiva.

In the exercise on cardiovascular disturbances the changes in heart action, blood-pressure, pulse-rate and volume, and in respiration as a result of experimental (1) aortic insufficiency, (2) mitral stenosis, (3) hydropericardium, (4) injury to myocardium and (5) edema of the lungs, were graphically demonstrated by the use of a kymograph.

Acute diseases of the pancreas were illustrated by (1) experimental acute hemorrhagic and (2) gangrenous pancreatitis due to the injection of bile, with (3) the correlated fat necrosis. The relation of the pancreas to diabetes and the theory of internal secretion were demonstrated by contrasting the results of (4) extirpation of the pancreas with (5) ligation of the pancreatic ducts. The fermentation and Fehling's tests applied to the urine of all these animals offered a vivid picture of the relative influence of different types of injury of the pancreas.

These three exercises are examples of the opportunities offered by this method of teaching. The advantages of its application to the problems of nephritis, the disturbances of the ductless glands and the principles of infection and immunity are evident. No other part of my teaching experience has ever given me so much satisfaction with the attitude of the student, and in no other course have I felt so certain that I was giving him what he wanted and needed. Such a course is, after all, as near an approach to clinical methods as one can attempt in the laboratory. The physician studies the altered functions of his patient by direct observation and by all the methods which biology, physics and chemistry have brought to bear on diagnosis; he summarizes the results, correlates them, ponders over them and arrives at a conclusion which is based largely on the fundamental experience of pathologic anatomy. His work really represents the first, the oldest, and the most important application of pathologic physiology.

Another phase of the teaching of pathology which may be criticized is the presentation of pathologic anatomy. Diseased organs are studied from the point of view of changes in morphology, color and consistence, without attempt to associate physiologic disturbances. In many schools no systematic work in gross pathology is offered after the second year, and even in the second year it is usually a museum course with no systematic drill in fresh appearances. Some schools have improved the situation by obligatory autopsy work and clinicopathologic conferences in the third and fourth years. Also the museum material has had some life instilled into it by adopting the "case" system of presenting organs illustrating the associated lesions of any one disease with, at the same time, the clinical history and microscopic preparations. But all these improvements leave the work a demonstration course. The student can obtain an adequate knowledge of morbid anatomy only by following the example of the young pathologist; that is, by studying at first hand the naked-eye appearance of fresh organs, arriving at some conclusion, and immediately verifying it, or otherwise, by the use of the freezing microtome. This is the true experimental method—observation, hypothesis, experiment, deduction. It is perhaps, best combined with the work of the third and fourth year of medicine after the student has had a year of fundamental pathology, though if time allows it can also be used in the second year. During the past four months I have used it with my third-year class and have had the most gratifying results. Placed in a room with the fresh material before them, with scales, measures, the necessary dissecting instruments, a bacteriologic outfit, stains and reagents for microchemical reactions, an abundance of text-books on all branches of medicine, and a laboratory attendant at the freezing microtome, the men have worked out their own diagnoses at first hand. No demonstrations were given and no aid, except in guiding methods of procedure and by occasional pertinent questions. At the end, diagnoses were checked, and each student's general knowledge of the lesions he had studied was determined by a few leading questions as to etiology, associated conditions, complications, sequelæ, and important clinical symptoms. The eager attitude of the class toward this course has been sufficient evidence of its value.

We have not the wealth of fresh autopsy material offered by the pathologic institutes of Germany, but that which we have is too frequently used for perfunctory demonstration or for second-hand study as beautifully mounted and labeled museum preparations and not sufficiently utilized for first-hand observation and manipulation by the student. The use of fresh material and the freezing microtome go far to wean the student from his "reverence for authority" and his faith in the lecture and to force him to observe and think for himself.

Physiologic chemistry and experimental pharmacology, as given in our best schools, are, I believe, the most satisfactory of our laboratory courses. Presented, in most instances, in a vigorously scientific manner, with the student carrying on exact quantitative estimations and using graphic methods of registering results, and himself frequently the object of experiment, these courses fulfil all the rules of the experimental method and force on the student, as no other course does, the practical importance of this method. To one who was taught by the methods of the old "medical chemistry," it is most stimulating to see an entire class in modern physiologic chemistry study the influence of a protein, a fat or a green diet, of a nuclein diet on purin output, of a heavy protein diet on urea output, and of starvation on total nitrogen and acetone elimination. In these, as well as in other procedures, as individual calorimetry with the respiration apparatus, the student is the investigator as well as the experimental animal. Such experiments are now extensively carried out in a few courses, and when supplemented by the study of phloridzin glycosuria, pancreatic diabetes and other experimental conditions in animals, give a knowledge of the fundamental principles of metabolism and of practical physiologic chemistry which was not dreamed of by the student of ten years ago. Such courses lead one to believe that the rapidly approaching closer union of hospital and school will lead to the next step, the opportunity for small classes to study the metabolism of patients in the hospital ward.

The modern course in experimental pharmacology, unfortunately at present not given in all our better schools, is I believe, the most valuable part of the first two years of laboratory work. Coming as it usually does in the latter part of the second year, when the student is completing or has completed his physiology and pathology, it offers him the last opportunity, before he approaches the clinic, to review normal functions and to study the manner in which various agents may alter them. And in those courses which are not merely exercises in testing the action of drugs, but in which abnormal conditions are produced and measures for their treatment or care are applied, pathology as well as physiology is reviewed and the fundamental principles of therapeutics thoroughly impressed on the student's mind. Not only medicine, but surgery, benefits by such a course, for the study of the influence of anesthetics and of the production and treatment of shock, collapse and hemorrhage carries the student well into the realms of clinical surgery. I refer, naturally, not to demonstration courses, but to those in which the procedures are actually carried out by the class.

In presenting this criticism I am not unmindful of the recent great advance in the utilization of laboratory teaching, and I realize fully that suitable equipment for teaching must precede the elaboration of methods of teaching. This equipment we now have in all good schools and I feel very strongly that the time has arrived for the heads of the laboratory departments to justify its great expense by so conducting their courses as to satisfy, on the one hand, the students receiving the instruction, and on the other, the trustees or others providing the equipment. But, above all, they must themselves be satisfied that their courses, collectively, leave no gaps which might, with a little thought and a little cooperation, be filled. Some of these gaps, as, for example, those I have mentioned in connection with bacteriology and pathology, could be filled by new departments of immunology and pathologic physiology, but the already overburdened medical curriculum cannot yield more time. Correlation between various departments and a rearrangement of old courses on a modern basis, with the object of training for power rather than knowledge, must be one of the remedies. The present evil is the result of a lack of general supervision. One remedy, therefore, is open criticism backed with authority, and that authority should reside in a committee of the governing body of the university. This is the most direct way to bring about a proper correlation but not, perhaps, the best way.

Another method is by voluntary cooperation on the part of the heads of the laboratory departments. Our medical sciences are not, for the most part, so widely separated that members of one department are totally ignorant of methods of another. Their interrelation is best illustrated by the development of embryology in the departments of anatomy, physiology and zoology simultaneously; by the influence of pathology on physiology and on the development of certain phases of normal histology; by the position which bacteriology and protozöology occupy in the departments of pathology and hygiene; by the development of a new science, modern pharmacology, based on the application of the methods of chemistry and physiology to empirical therapeutics; and by immunology, as its followers now term it, which demands the methods of practically all the medical sciences.

Despite this history of development and mutual relation there is a tendency, not only in teaching, but in investigation, to separate sharply each of these into an independent science of medicine to the great detriment of that which should be the scientific aim of all, the development of the science of clinical medicine. Even though this last science is to reach its perfection only through the efforts of men actually engaged in clinical research, as is the opinion of Dr. S. J. Meltzer, such men must receive every advantage of training in the fundamental medical sciences, and not only this, but from the teachers of such branches they must receive so much of the scientific spirit that they will carry some of it with them into their clinical work. I do not mean by this that clinical surgery and medicine have not men of scientific methods and investigators of prominence; I mean rather that they would have more if the teachers of the first two years so correlated their work as to force on the student the practical use of their methods in the investigation of clinical problems, or, what is simpler still, demonstrated the relation which the methods of one course bear to those of another course in the explanation of the phenomena of abnormal function. This latter is particularly the opportunity of the courses in physiology, pathology and pharmacology. The benefit of such cooperation cannot be denied and illustrates a second of the possible remedies for the present isolation of our laboratory courses.

Another important phase of this subject is that of the relation of investigation to teaching. If one examines courses in the same subject in a number of schools, it is found that those which are best presented from the point of view of the experimental method are under the control of men actively engaged in research work. Such men are alive to the advantages of new methods in their own subject and of new ways of applying old methods. On the other hand, one finds that the perfunctory routine laboratory courses, with a profusion of lectures, are by the men who never or only occasionally contribute to the literature of their science.

I have often thought that our departments of biologic chemistry and experimental pharmacology forcibly illustrate the importance of the investigator as a teacher. With few exceptions, they are manned by active investigators and from the point of view of medical pedagogy are most satisfactory. They represent, as now organized, the most recently developed of the medical sciences, and have emerged directly from the fields of most active investigation in physiology and chemistry. They have no vast theoretical literature back of them, no traditions as to methods of teaching, but they have established their own methods on the basis of observation and experiment. "Medical chemistry" and "therapeutics" were once taught by "good teachers," but the investigator in physiology and chemistry has transformed them into sciences of university rank to which the former narrow terminology no longer applies.

These three factors—authoritative control to arrange correlation, cooperation by department heads, and the appointment of teachers who are also investigators—are fundamental in the application of the methods of experimental medicine to proper teaching. Two other factors, however, are concerned. These are closely related. One is the question of electives and the other the question of actual research by the student. The first, necessary for any proper attempt at correlation, is obligatory if the student is to work independently, even in a small way, as an investigator. As the advisability of giving the student the latter opportunity is still a disputed point, however, it may be discussed first. As every teacher knows, each class contains a considerable number of men who desire to pursue, to a greater extent than the conventional course allows, work on certain subjects or by special methods, or less frequently, perhaps, they desire, and are usually well qualified to undertake, minor investigative work. To the former, as well as to the latter, any effort spent in work beyond that given the entire class becomes, necessarily for them, the acquirement of the methods of research, and as this means a knowledge of the exact, painstaking methods by which the realms of the unknown are explored, it is an exercise which prepares the student for the daily routine research work of the physician who truly practices his profession. As a training for future work, its value is definitely known and the increased zest and enthusiasm exhibited towards their medical work by men who have had this opportunity are always evident. Pedagogically, therefore, it would seem advisable that every student should have the opportunity for minor research, in order that he may become acquainted at first hand with the careful methods of experimental medicine. The bearing of the tangible results of his work on the subject investigated is a matter of little or no importance; the vital thing is the increased power which he himself acquires. If the student is to have such opportunity the elective system is necessary.

So much for the use of the experimental method in the two laboratory years. This method, if it has any special significance, should bear fruit in the third and fourth years, the periods devoted to clinical teaching. Are our clinical departments so organized that they are prepared to aid the student in his development along scientific lines? A few are, but for the most part the clinician returns the student to the methods of the lecture-room and the demonstration and gives him little opportunity to develop his powers of personal observation. The discussion of this phase of teaching may be limited to the department of medicine, as contrasted with surgery and the specialties, though what is said of medicine applies equally to other clinical branches. The department of medicine should be the great glory of the medical school, and the method of instruction in all preceding courses should be considered as contributing to the proper study and appreciation of the material and problems of clinical medicine. Pedagogically considered, the methods of study in the earlier years should give the student the proper point of view for approaching any diseased condition, and practically, they should train him as far as may be possible in the actual methods of precision used in the clinic. The methods of the diagnostician are those used in procuring all scientific data; that is, accurate observation and experiment with logical deduction. His observations are of two kinds, direct, by the exercise of his unaided senses, and indirect, by the use of instruments of precision and various laboratory procedures. These demand methods which from the pedagogic point of view are in no way different from the methods used by the student in his laboratory years.

The data obtained, either directly or indirectly, when correlated according to the rules of the experimental method, lead to a conclusion (diagnosis) as scientific as the conclusions of the investigator in the laboratory of physiology or pharmacology. If it should eventuate that the conclusion is erroneous, it is not the fault of the experimental method but of inadequate methods, insufficient data or improper deduction. Clinicians of long practice will not always admit that the data on which they base a diagnosis are always obtained by the careful, painstaking methods of scientific observation. They imply that experience gives an added sense, forgetting that it is the continuous training in accurate observation and deduction which gives them the power to make and correlate their observations rapidly and to reach their conclusion by a "short cut" not possible to the beginner. That knowledge of medicine which is of lasting value the student can get only from direct study of the patient. By direct study, I do not mean the study of the patient by a class, no matter how small, but the study of one patient by one student, under a supervision which tells him, to some extent, what to do and how to do it, but not what he is to find; in other words, a continuance of instruction in methods, leaving the matter of deduction in large part to the student himself.

The conduct of such a course brings up several of the problems now attracting the attention of all who are interested in medical education. It cannot, it is evident, be successfully given in a hospital not an integral part of the university. This is the experience of all schools which have attempted it in hospitals with which they are affiliated but in which they have no authority. Questions of authority over patients, of equipment for teaching, of laboratory space for clinical study, all indicate that the first essential is the possession or control by the school of its own hospital. This allows an easy solution of all problems: Continuous service and freedom in the appointment of clinical teachers come as a matter of course. Teaching and investigation can be carried on without interruption. The student becomes a part of the hospital routine and is not an onlooker with limited privileges. The laboratory departments of the first and second years unite to aid the work of the clinicians in the hospital. Clinical teachers may be promoted, if deserving, or may be called from any part of the country, or from abroad; the choice no longer depends on local hospital appointments or on the selfish interests and friendships of local consultants, but on fitness, eminence and skill.

Whatever has been said about the instruction in internal medicine applies with equal force to surgery, pediatrics and obstetrics. These four subjects constitute the backbone of medical knowledge, and the last three deserve a word of comment. Pediatrics, frequently served by special hospitals, is amenable to the same individual teaching as internal medicine, and because of its peculiar importance should have a more prominent place in the medical curriculum than is usually assigned it. Obstetrics presents special difficulties because of the infrequence of maternity wards and also on account of the wide scattering of the out-patient service, but these difficulties are not insurmountable.

Surgery, from the point of view of diagnosis and the care and treatment of the minor common lesions and injuries, may be taught by the same methods as those outlined for internal medicine, and, most important of all, the frequent lectures and large operative clinics from which the students gain little or nothing, should be replaced by courses in experimental and veterinary surgery, offering an opportunity for detailed training in the administration of anesthetics, in asepsis and antisepsis, in the preparation before and the care after operation, and above all for the study of repair of wounds and their treatment.

Much of surgery and of the various specialties should be given as elective courses, in the manner adopted by this school, or as postgraduate work. No physician needs to know, or can know, all the specialties in detail, and only a relatively small number become operating surgeons. Those that do specialize, do so only after a thorough postgraduate training. The great bulk of men who practice medicine should have as thorough a training in internal medicine and closely allied branches, such as pediatrics and neurology, as it is possible to give. With this, in the obligatory course should go a general knowledge of the principles of surgical diagnosis and a certain minimum knowledge of the specialties.

One or two other matters of importance in the teaching of clinical medicine may be briefly mentioned here. One of these is the advisability of offering small groups of students the opportunity of studying, as an elective, the diseases of one organ, or of related organs, from every point of view. I have been much interested in such a course given last year by Dr. W. T. Longcope at the University of Pennsylvania and known as a course in "medical correlation." During one year a group of six students studied the diseases of the heart from the clinical, the pathologic, the experimental and the therapeutic point of view. All the methods of clinical observation were brought to bear on the cases in the wards of the hospital; gross and microscopic preparations illustrating the pathology were examined; the normal physiology of the heart was studied in animals by the methods of physical diagnosis and of graphic registration, and finally these were used also in the observation of lesions produced experimentally. The relation of various diseases of the heart to diseases of the lungs, liver, kidney and other organs and tissues was thoroughly covered and the effect of treatment on patients in the wards and experimentally produced lesions in animals observed.

Another matter concerns departments in the medical school known as research departments and variously described as departments of experimental pathology, experimental medicine, or research medicine. The title matters little, but the plan of the department should be broad enough to care for the problems of clinical medicine, and for this reason the word "medicine" should appear in the title rather than the word "pathology." Such a department should keep in close touch with the department of clinical medicine, and should supplement the facilities of the various hospital laboratories, but, nevertheless, should also work in cooperation with the fundamental laboratory sciences in order to insure a realization of the greatest good to the school. The head of the department should be a man familiar with the problems of clinical medicine trained preferably as a pathologist, and with sufficient knowledge of the possibilities of physiology and chemistry to apply the methods of these subjects to clinical problems. I say preferably a pathologist because the pathologist is more apt to combine clinical training with a knowledge of pathology, bacteriology and the principles of immunity than is the physiologist, chemist or pharmacologist, though any one of the latter might well head such a department.

The work of this department should be the investigation of clinical problems, and not of academic problems of pathology, chemistry, physiology, etc. The latter can still be carried on in the departmental laboratories which have always followed academic lines, and, in truth, are forcing, through their neglect of clinical problems, the establishment of the type of department described. General practitioners, clinical assistants in the school, and even those at the head of clinical departments are constantly meeting problems which demand solution but find no adequate opportunity to investigate them in departments as now constituted.

Another function of this department should be undergraduate instruction to fourth-year men taking research work in clinical medicine as an elective, and also postgraduate instruction for those desiring training in the methods of experimental medicine as the basis for a career as teacher or investigator.

The practice of medicine has developed out of empiricism by the application of the methods of its tributary sciences and whatever is definitely known and understood in medicine can be traced to the application of the experimental method.

In recommending to you that, as practitioners, you keep always the point of view of the investigator, I realize fully that as you go out among so-called "practical" doctors you will find many who sneer at what they term the "scientific" doctor. This view, of which we hear less and less each year, is a survival of the opinion commonly held prior to the development of the sciences of bacteriology and physiologic chemistry, which sciences, by their practical applications to every-day medicine, have perhaps done more to dispel it than is usually realized.

I have read recently an address by President MacLaurin in which he discusses some of the factors which in the course of fifty years have placed the Massachusetts Institute of Technology in its present commanding position. Two of these factors are worthy of the earnest consideration of the trustees and teachers of our medical schools. The first President MacLaurin presents as follows: "There has never been any uncertainty or indefiniteness as to what the institute is aiming at in its scheme of education;" the second, embodies the idea that the success of the educational policy of the institute has been due to the fact that the emphasis has been laid on the *"method"* and *spirit* of science rather than on *subject,* and that the *"learning by doing"* or *"do it yourself"* idea has been systematically applied. We need, in medicine, a greater appreciation of both these factors by our trustees as well as by our teachers; of educational policy by the former, of educational method by the latter.

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THE RELATION OF THE INTOXICATING DOSE OF HORSE-SERUM TO THE PROTECTIVE DOSE OF ATROPIN IN ANAPHYLAXIS IN THE GUINEA-PIG *

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Within the past two years Auer and Lewis[1] and Auer[2] have shown that atropin sulphate has a distinct protective action against the asphyxia of immediate or acute anaphylaxis in the guinea-pig, and their observations have been repeatedly confirmed.[3] Inasmuch as most of these studies have had for their purpose the determination of the physiology of anaphylaxis, no attempt has been made to determine the quantitative relation, if such exists, between the intoxicating dose of the serum and the dose of atropin sufficient to protect the animal from death. The study presented in this paper had for its object the determination of this point.

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* *Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.*

* *From the McManes Laboratory of Pathology, University of Pennsylvania, aided by a grant from the Committee on Scientific Investigation of the American Medical Association.*

[1] Auer, J., and Lewis, P. A.: Acute Anaphylactic Death in Guinea-Pigs, THE JOURNAL A. M. A., 1909, liii, 458; The Physiology of the Immediate Reaction of Anaphylaxis in the Guinea-Pig, Jour. Exper. Med., 1910, xii, 151.

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[3] Anderson, J. F., and Schultz, W. H.: The Cause of Anaphylactic Shock and Some Methods of Alleviating It, Proc. Soc. Exper. Biol. and Med., 1910, vii, 32. Biedl, A., and Kraus, R.: Die Serumanaphylaxie beim Meerschweinchen, Wien. klin. Wchnschr., 1910, xxiii, 385.

The problem was attacked from two sides. First, with a minimum fatal dose of horse-serum as a standard, the minimum protective dose of atropin was determined; the toxic dose of serum was then increased and the minimum protective dose of atropin again determined, this procedure being repeated until the dose of atropin became so large as to be markedly toxic for the animal. Second, a maximum dose of atropin, just short of the lethal dose for the animal, was administered and a determination made of the largest amount of horse-serum against which the dose of atropin protected the animal; the dose of atropin was then diminished and the maximum nonfatal dose of serum again determined. This procedure was continued until a point was reached where further reduction in the size of the dose of serum would in itself have failed constantly to produce death. Throughout the study a constant sensitizing dose of 0.05 c.c. of horse-serum was used. After a lapse of sufficient time for the animals to become actively hypersusceptible the dose of atropin was given into the exposed right jugular vein and the intoxicating dose of horse-serum three to ten minutes later into the same or opposite vein. All animals were closely observed in their cages and autopsies performed on those that died. It was found in the latter that the lungs were somewhat more congested than is the rule with typical anaphylaxis;[4] the myocardium often showed punctate hemorrhages, and the abdominal viscera were much congested but free from macroscopic hemorrhage.

TABLE 1.—RELATION OF MINIMUM FATAL DOSE OF SERUM TO MINIMUM PROTECTION DOSE OF ATROPIN

Number of Animal	Dose Atropin Sulphate in Gm.	Time in Minutes Between Injections	Intoxicating Dose, Horse-Serum, in C.c.	Symptoms	Result
555	0.001	10	0.2	Increased respiratory rate with dyspnea.	Recovery.
556	0.001	10	0.4	Severe..............................	Death (5 minutes).
561	0.002	5	0.4	Marked respiratory difficulty............	Recovery.
563	0.001	6	0.6	Severe..............................	Death (5 minutes).
564	0.002	7	0.6	Marked respiratory difficulty, convulsions	Recovery.
565	0.003	6	0.8	Severe..............................	Death (5 minutes).
569	0.007	6	0.8	Moderate respiratory difficulty..........	Recovery.
570	0.008	6	1.0	Severe..............................	Death (1 minute).
571	0.010	6	1.0	Severe..............................	Death (8 minutes).
573	0.015	6	1.0	Severe..............................	Death (5 minutes).
577	0.020	3	1.0	Severe..............................	Death (30 minutes).
579	0.025	3	1.0	Moderate respiratory difficulty..........	Recovery.
580	0.030	3	1.5	Severe..............................	Death (5 minutes).
585	0.040	5	1.5	Severe..............................	Death (5 minutes).
...	0.040	..	...	Moderate increase of respiratory rate....	Rapid recovery.
...	0.050	..	...	Rapid cessation of respiration..........	Death (5 minutes).

TABLE 2.—RELATION OF MAXIMUM NON-FATAL DOSE OF ATROPIN AND MAXIMUM DOSE OF SERUM AGAINST WHICH ATROPIN IS PROTECTIVE

Dose Atropin Sulphate in Gm.	Time in Minutes Between Injections	Intoxicating Dose of Horse-Serum in C.c.	Symptoms	Result
0.015	5	1.5	Severe....................................	Death (5 minutes).
0.015	5	1.0	Marked respiratory difficulty; convulsions; coma....	Recovery. (Death, 18 hours).
0.012	5	1.0	Severe....................................	Death (5 minutes).
0.012	5	0.8	Severe....................................	Death (5 minutes).
0.012	5	0.7	Marked respiratory difficulty, but without complete cutting off of air supply..........................	Death (6 minutes).*
0.012	5	0.6	Moderate respiratory difficulty; slight general convulsions..............................	Recovery.
0.010	5	0.6	Severe....................................	Death (17 minutes).
0.010	5	0.5	Severe....................................	Death (8 minutes).
0.010	5	0.4	Severe....................................	Death (5 minutes).
0.010	8	0.3	Marked respiratory difficulty; convulsions..........	Recovery. (Death, 18 hours).
0.008	5	0.3	Marked respiratory difficulty; frothing at nose; convulsions..............................	Death (18 minutes).
0.008	5	0.2	Same symptoms as preceding..................	Recovery.
0.006	5	0 2	Slight respiratory difficulty..................	Recovery.
0.004	5	0.2	Marked respiratory difficulty; convulsions..........	Recovery.
.....	.	0.2	Severe....................................	Death (3 minutes).
0.018	.	...	General convulsions; respiratory failure............	Death (5 minutes).
0.015	.	...	General twitching; increased respiratory rate.......	Recovery.

* Apparently result of exhaustion rather than anaphylaxis.

The first phase of the study occupied about a month. For this reason the second injection of serum with its corresponding dose of atropin was given from twenty-five to fifty-five days after sensitization, the larger doses being given in the later periods. In the second series, however, the work progressed more rapidly, the time of sensitization being from seventeen to eighteen days; furthermore, the order of experiment was reversed in the second series, the larger doses being administered first. Any objection that might be raised on account of the varying time of sensitization in the first series is certainly overcome by the method of the second.

Table 1 presents the essential results of the first series of experiments. It is seen that the minimum fatal dose of horse-serum (0.2 c.c.) was insufficient to produce death when preceded by the administration of 0.001 gm. of atropin. In order to protect against 0.4 c.c. and 0.6 c.c. of horse-serum, it was necessary to increase the dose of atropin to 0.002 gm. To protect against 0.8 c.c. serum, 0.007 gm. atropin was necessary and against 1 c.c. serum, 0.25 gm. was needed. No dose sufficiently large to protect against 1.5 c.c. serum was possible, for before such a point was reached the animals succumbed to the dose of atropin. The presence of distinct symptoms of anaphylaxis in all those animals which were saved, is sufficient evidence of the fact that they were highly sensitive. It is clear then that there is a quantitative relation between the protective dose of atropin and the intoxicating dose of horse-serum.

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[4] Karsner, H. T.: Die Lungen in Anaphylaxie und in Anaphylaxie gleichenden Zuständen, Ztschr. f. Immunitätsforsch., in press.

The second series is presented briefly in Table 2. Whereas the atropin used in the first series was from Smith, Kline, French & Co., that used in the second series was from Merck & Co. This fact probably accounts for the variance in absolute dosage of atropin seen in the two tables, for the animals of the two series were from the same general stock. Eighteen milligrams of atropin killed a guinea-pig within five minutes. It is seen that 0.015 gm. protects against 1 c.c. serum, 0.012 gm. against 0.3 c.c. serum, and 0.004 gm. against 0.2 c.c. serum. The minimum protective dose of atropin was not determined. The conclusion that there is a general relationship between the doses of atropin and serum is obvious. From the first series, it appeared that the curve of the dose of atropin rises much more rapidly than that of the dose of horse-serum, but this is not borne out by the results of the second series. That any such exact relationship could be demonstrated, was doubtful from the first because of slight variance in the individual susceptibility to the horse-serum. The same slight individual difference of response is seen in connection with the administration of atropin.

A STUDY OF FEVER IN TUBERCULOSIS WITH REFERENCE TO ITS CAUSATION AND TREATMENT *

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The fever which accompanies tuberculosis is a symptom poorly understood and unsatisfactorily treated. In recent years the opinion of the profession as to the chief factors in its causation has undergone several changes; and yet the most generally accepted theory at the present time is still unsatisfactory and leaves much to be explained. Since there can be no exactness in its therapy until we have formed some definite idea of its cause or causes, the importance of more study along this line is self-evident.

It must be obvious to anyone who has an opportunity to study patients suffering from advanced tuberculosis and who uses his powers of observation, that the cause of the chronic fever in tuberculosis and the factors which produce the irregularities in its course are numerous and complex. There has been an endeavor to make this subject entirely too simple and the result has been increased confusion.

The finding of bacteria of various kinds in the sputum of tuberculous patients, especially the pus-producers, has given grounds for the belief that tuberculosis, when it reaches the open stage, is a different process from that of early tuberculosis; and that the principal factors in the production of the symptoms in the later stages are the associated bacteria.

Koch[1] made the declaration that a daily temperature curve above 100.4 in a case of pulmonary tuberculosis is due to septic microorganisms and consequently unsuited to treatment with TR. This mixed infection theory was accepted by the profession generally. It called forth many such statements as these: "The tuberculous process is a dry process. If the tubercle breaks down it is because of mixed infection." "Cure the mixed infection and the tuberculosis will cure itself." "Any temperature above 100.4 is due to mixed infection." Such statements as these were believed in spite of the fact that the débris formed in cold abscesses is moist and yet free from pus microorganisms; and in spite of the fact that patients with acute miliary tuberculosis have high temperature curves before the tubercles have reached the age of softening. See Chart 7.

In order to understand the cause of these fevers, we must take a broader view and look at the question from many standpoints. I believe that the primary causes are at least three in number: the tubercle bacillus and its toxins; associated bacteria and their toxins; and enzymes and the products resulting from their action upon the body cells. This last cause is generally disregarded in discussions on this subject; and, yet, I believe it is a factor of great importance in all cases of advanced tuberculosis of the ulcerative type. I cannot help thinking that one of the greatest dangers to the tuberculous patient arises from the absorption of the products resulting from enzyme action.

Our knowledge of the action of enzymes is as yet comparatively meagre. The writings of Hahn,[2] Ascoli and Bezzola,[3] F. Müller,[4] K. Meyer[5] and Opie[6] are very suggestive and show the value of careful study along this line.

Two factors, the tubercle bacillus and the products of autolysis, are present in all cases of advanced tuberculosis. These factors are present in varying degrees which depend somewhat on the activity of the process. I do not believe that associated bacteria are an important etiological factor in the production of all fevers which rise beyond moderate elevations in advanced tuberculosis, although they are unquestionably so in some.

We are wont to look on tuberculosis of the fibroid form as being due to a type of bacillus of low virulence, believing that the greater the amount of toxins or the more virulent the bacilli, the greater the tendency to tissue destruction. This is a favorable form from the standpoint of cure. I doubt not that the comparatively small amount of autolysis present is also a very important factor in rendering this a favorable form of the disease.

The ulcerative processes, on the other hand, are more serious. We assume that the tubercle toxins are a greater factor in them than they are in the fibroid form. We also must recognize that these forms present a greater amount of autolysis. Where the tubercle bacilli are supplemented by associated bacteria, we have the severest form of the disease; for here we have both the effects of the various bacteria and their toxins and an increased autolysis.

We have attempted with a degree of success to classify these fevers and associate certain types of temperature with certain pathologic conditions. The continuously subnormal temperature we associate with both chronic fibroid tuberculosis and chronic tuberculosis of the ulcerative type during the stage of quiescence. (See Charts 1 and 2.) Doubtless in patients suffering from these types there is a minimum amount of tubercle toxins and products of autolysis entering the blood-stream; consequently there is little or no rise in temperature. Now, if the disease becomes active, however, and the tissues begin to soften, the entire range of temperature assumes a higher level as shown in Chart 3. The morn-

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Koch: Deutsch. med. Wchnschr., April 1, 1897, p. 201.

[2] Hahn: Berl. klin. Wchnschr., 1897, p. 499.

[3] Ascoli and Bezzola: Berl. klin. Wchnschr., 1903, p. 391.

[4] Müller, F.: Verhandl. d. 20 Cong. f. Inn. Med., 1902, p. 192

[5] Meyer, K.: Berl. klin. Wchnschr., 1909, p. 1890.

[6] Opie: Report of Sixth Int. Congress on Tuberculosis, Washington, 1908, p. 255; Jour. Exper. Med., 1911, xiii, No. 1, p. 162

ing temperature rises as well as that of the afternoon. I do not doubt that the tubercle toxins are a factor in producing this increase of temperature, but I am inclined to believe that the action of enzymes may be even a more important factor; for as Opie[6] says: "Injury to tissue is due primarily to the action of the tubercle bacillus, but the occurrence of caseation is perhaps distinctly referable to autolysis." The same conditions are present in what is termed caseous tuberculosis, as shown in Chart 4. Here we must consider that practically the same phenomena are occurring as in the process which is slightly active, shown in Chart 3, but that the area of involvement is much greater; consequently the temperature is higher and the symptoms on the part of the patient are more pronounced. In temperatures which are supposed to show the effect of associated bacteria, the so-called "mixed infections," we note particularly the wide daily range, starting very low in the morning and rising to a very high point in the afternoon, as in Chart 5. Here, also, autolysis must be an important factor. That we can have a continuously high fever in tuberculosis without caseation is well known. Chart 6 is the chart of a patient suffering from an acute miliary tuberculosis which was engrafted on a chronic process, and Chart 7 an acute miliary process of sudden onset, the patient dying in three weeks' time.

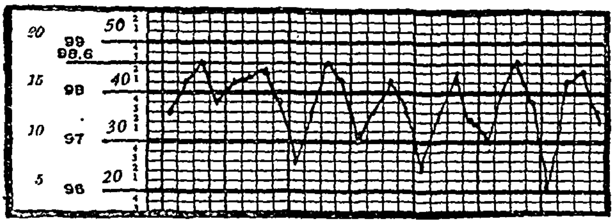

Chart 1

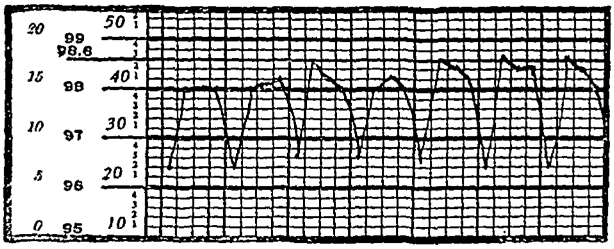

Chart 2

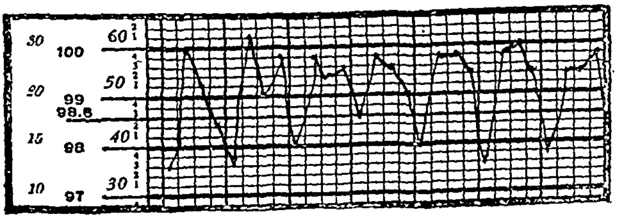

Chart 3

Chart 1.—Fever curve of chronic fibroid tuberculosis.
Chart 2.—Fever curve of quiescent tuberculosis, ulcerative type.
Chart 3.—Fever curve showing activity in tuberculosis of chronic ulcerative type.

A glance at the accompanying charts, bearing in mind the associated pathology, shows clearly that the greater the necrosis, that is, the greater the enzyme action, the higher the fever. Study of the clinical aspects of tuberculosis associates not only the rise of temperature, but also many of the most distressing symptoms and complications with the necrosis. How much these are due to bacterial toxins and how much to enzymes and the products of their action remains to be determined.

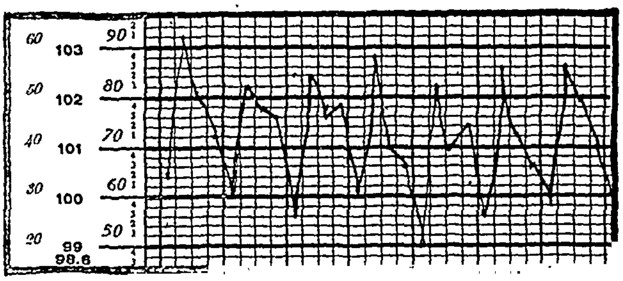

Chart 4

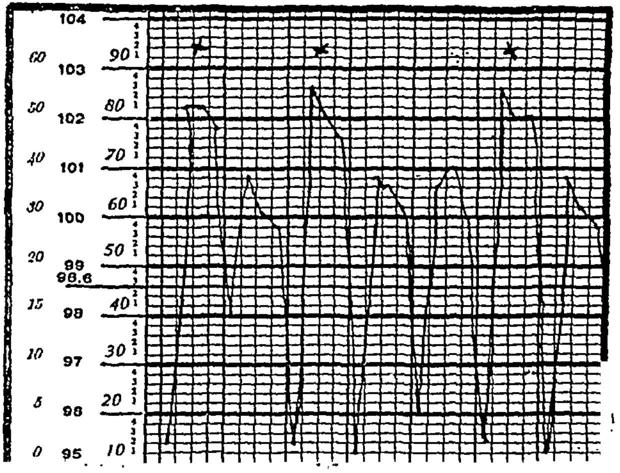

Chart 5

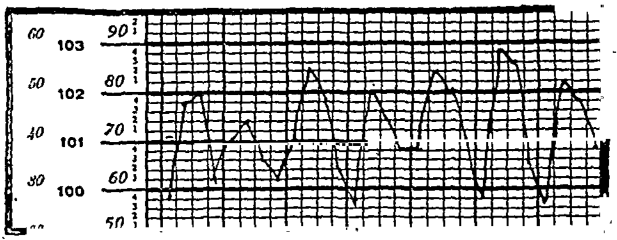

Chart 6

Chart 4.—Fever curve of caseating pneumonic type.
Chart 5.—Fever curve of mixed infection, also showing the effect of baths in raising temperature. Crosses indicate days baths were given.
Chart 6.—Fever curve of acute miliary tuberculosis engrafted on a chronic process.

In our discussion of the cause of fever we are forced to acknowledge that we are unable to explain exactly how bacteria and their toxins and the enzymes and the products resulting from their action produce fever; but there are such wide gaps in our understanding of its pathology which remain to be filled in by further study that we are lost in a maze of uncertainty. Krehl[7] considers that the cause of fever "lies in the mechanism which regulates heat loss," and expresses the belief that

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[7] Krehl: Pathologische Physiologie, 1906, p. 392.

"the heat in fever is produced in such a manner that it does *not* furnish the *normal* stimulus to the mechanism that increases heat loss." Roger[8] expresses the opinion that "fever is a morbid state resulting from the exaggeration of the chemical processes concerned in the production of animal heat." He looks on the rise in temperature as being due to the reaction of the organism *against* bacteria, their products, and other substances among which we would place enzymes and the products of their action; and, contrary to Krehl, he says:

> Thus fever is due to increased chemical activity, whether or not there be a comitant departure from the normal evolution of matter. Dissipation of heat in fever is more-marked than under normal conditions, but excess in the production of heat is still more marked, hence the relative retention of heat and rise of temperature.

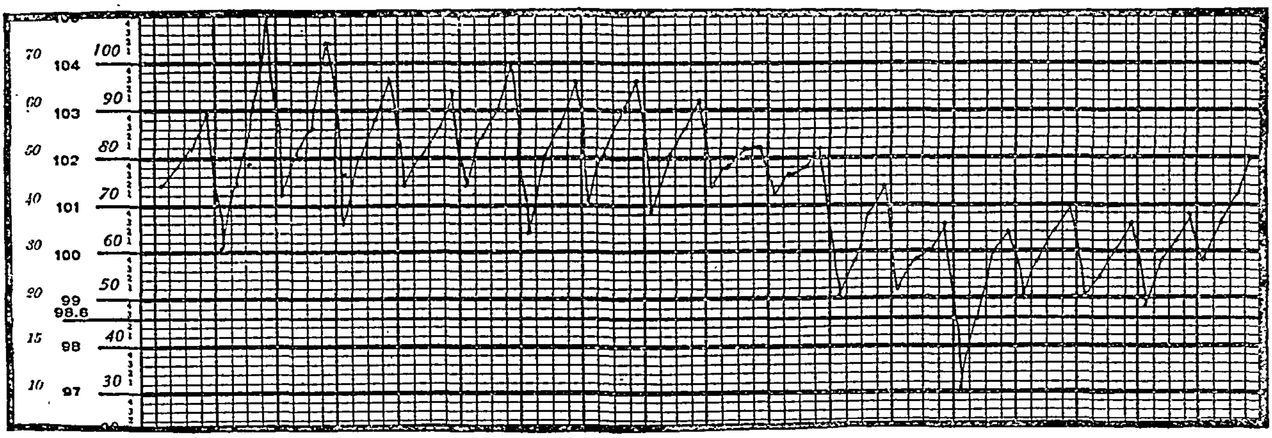

Chart 7.—Acute miliary tuberculosis, with fatal issue in about three weeks.

If we assume that the normal rectal variation of daily temperature for the healthy adult is about 1.4 F., as shown in the accompanying Chart 8, after Jürgensen, and compare this with the various charts of tuberculous patients shown above, we note that when inflammation is present, the temperature as a whole rises, the variation remaining about the same for the most part except in a certain type of cases, notably those which we have been wont to designate as "mixed infection." The height of the curve seems to depend on the amount of chemical changes present and the powers of the organism to react. In the so-called "mixed infection" curves, there are two tendencies present. Careful study of toxins shows that *their tendency is to lower temperature* in large doses, while the tendency of the body cells is to react with an increase of temperature. In those cases which we are wont to designate as "mixed infection," the amount of toxic products set free seems to be very large; consequently if the patient's powers of reaction are still good, *the daily range of temperature is much increased.* We note the same wide range of temperature during the last days of life in cases in which we find post mortem, evidence of a recent wide-spread destruction of lung tissue. I believe we are justified in attributing it largely to absorption of the products resulting from enzyme action. While under ordinary circumstances in quiescent and slightly active tuberculosis the normal daily variation of 1.4 F. is fairly well maintained, *in these conditions there is a wide departure.* From the excessively large dose of toxins the temperature is markedly depressed, reaching at times several degrees below normal. If the patient's powers of reaction are good this depression is followed by a high curve. In Chart 9 it will be noted that this range in one day amounted to more than nine degrees. As the patient's

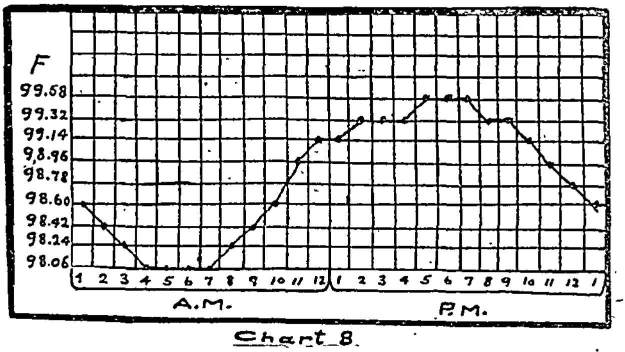

Chart 8.

Chart 8.—Showing daily course of rectal temperature under normal conditions (after Jürgensen).

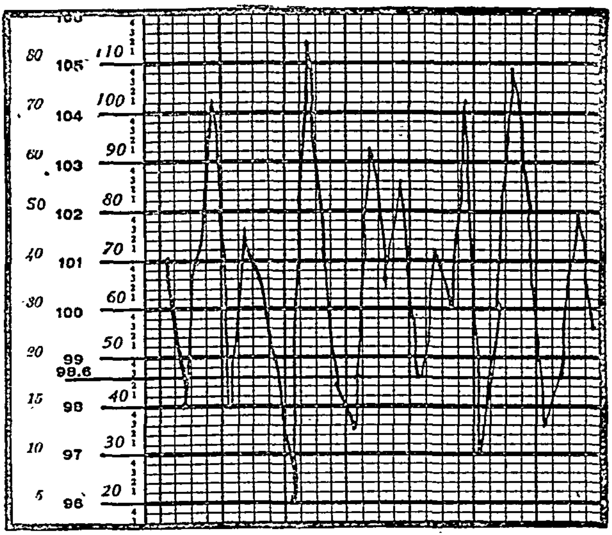

Chart 9.

Chart 9.—Fever curve showing rapid disintegration of lung tissue, absorption of large quantities of toxins, body cells still able to react.

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[8] Roger: Infectious Diseases, trans. by Gabriel, Lea & Co., 1903, p. 333.

power of reaction wanes, the temperature fails to reach the high points. It falls because of the toxic action and the inability of the body cells to react.

While we look on the three factors discussed above as being the primary causes of the elevations in the general temperature curves in tuberculosis, there are many factors which contribute to the variations found in these curves, some of which are subjective and others objective. Physical exertion is one of the most common causes of elevation in the temperature curve, Chart 10. In Chart 11 the effect of an overexertion may be seen in a patient who was recovering from a chronic temperature. The effect of this overexertion was never overcome. Mental perturbation is also frequently followed by variations in the temperature curve. Thought, reading, excitement, worry, joy, disappointment and fear all have their effect. The effect of worry is well shown in Chart 12. This patient was disturbed over the illness of her mother and her temperature assumed a higher plane until the mother was better. The effect of a large meal is often seen. Intercurrent complications, such as constipation, indigestion, colds, pleurisy, toothache, as well as the more serious ones, such as pneumonia, pneumothorax, and emphysema, all affect the regular curve. The effect of indigestion and constipation are often shown in a rise of temperature. Chart 13 shows an acute inflammation in a tuberculous process in the lung with probable expulsion of the contents of a softened tuberculous mass. The rise was accompanied by increased cough and expectoration.

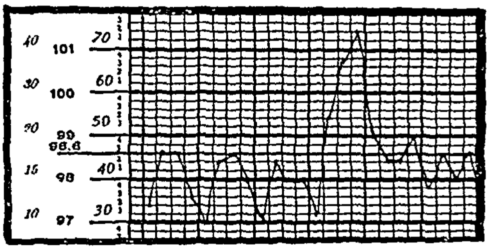

Chart 10

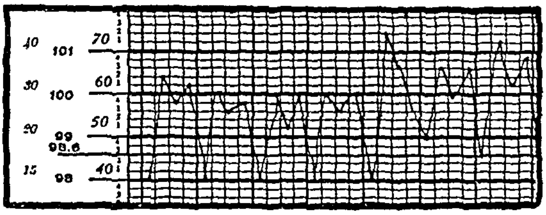

Chart 11

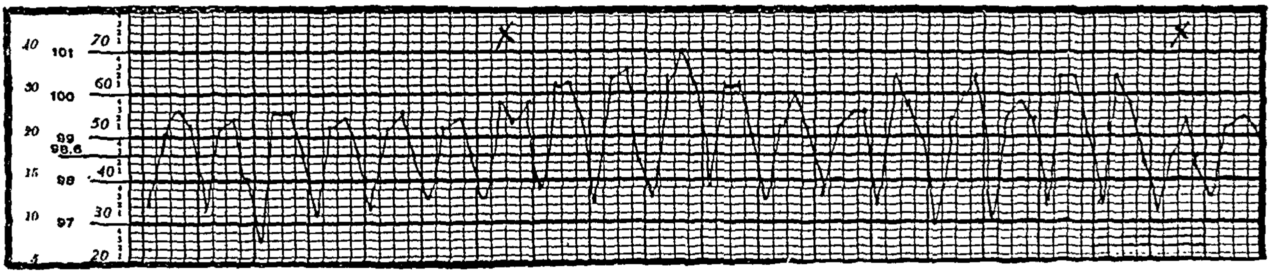

Chart 12

Chart 10.—Fever curve showing effect of overexertion in a chronic inactive case. Prompt return to normal.

Chart 11.—Fever curve showing effect of overexertion in a chronic active case. Failure to return to normal.

Chart 12.—Fever curve showing the effect of worry in patient suffering from chronic active tuberculosis. On the day marked by first star patient received word that her mother had cancer; the second star shows results of news that the diagnosis was incorrect—prompt drop in fever.

Aside from these influences *within* the patient, there are some without which affect the curve materially. It must be remembered that one cause of fever is lack of dissipation of heat. Therefore, it can readily be seen how thermometric and barometric changes affect the loss of body heat and consequently the temperature curve. From Chart 14 the effect of thermometric change is very plain. The low temperature on cold mornings has long been recognized. Another fact observed is that often a very annoying variation in temperature is produced by baths, the regular cleansing bath being followed in some patients regularly by a rise in temperature no matter how carefully the bath is given, as shown in Chart 5.

It will now be readily understood that there are so many influences which affect the temperature in the tuberculous patient that we are at times completely lost in our attempt to assign the proper cause for variations which occur. As a result of this confusion, the physician is at a loss to know the correct interpretation and the proper treatment to employ.

There has been too much of a tendency to deal in generalities in discussing the fever in tuberculosis, and the factors which produce it. It is commonly believed that every temperature above 100.4 is due to mixed infection. It is likewise believed that every patient who is having a high temperature is saturated with tuberculin which is circulating through his tissues. Nearly every rise in temperature which causes a temporary rise in the general curve is interpreted by many observers to mean an auto-inoculation of tuberculin. A moment's consideration of the underlying pathology and the conditions and influences surrounding the individual patient, however, will readily demonstrate that such general statements have no place in dealing with this disease. It is important to grasp these facts, for they have their bearing on the treatment of tuberculous fevers. At best, it will be seen that treatment of these conditions is a very complex proposition. It is especially necessary to interpret carefully the temperature curve when tuberculin is employed therapeutically.

Many of the contributing causes of fever discussed above can be avoided, while some, such as those depending on thermometric and barometric conditions, must be endured. Overexertion can be avoided by a little care. The effect of mental activity can, as a rule, be overcome. Reading, thinking and excitement are largely within the power of the patient to control, while worry and disappointment can usually be avoided to a large extent if the patient and physician are in thorough sympathy with each other and are cooperating as they should. Most of the complications which arise cannot be relieved at once. Some cannot be relieved at all. Some must run a regular course; but close personal medical supervision favors accuracy of diagnosis and affords rapid relief from many of them.

The relief of the fundamental causes of fever as described above is a very difficult matter and one which will often tax the patience of the physician and patient unless both are blessed with an unusual amount of optimism.

There are certain established therapeutic principles which may be followed no matter what the cause of the fever may be; nevertheless, there are certain fundamental facts which have been continuously overlooked that must be understood if we are going to attack this condition with any degree of intelligence.

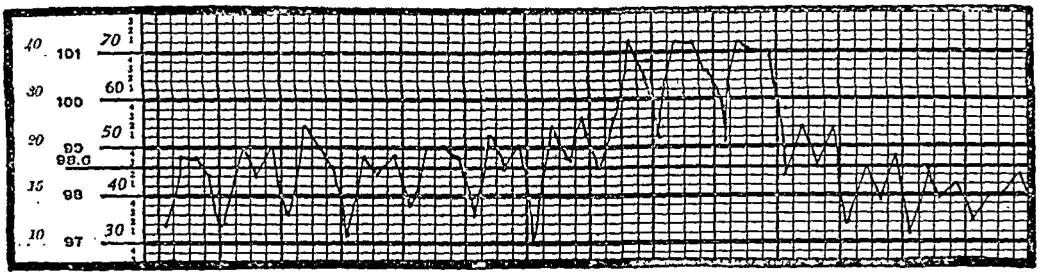

Chart 13.

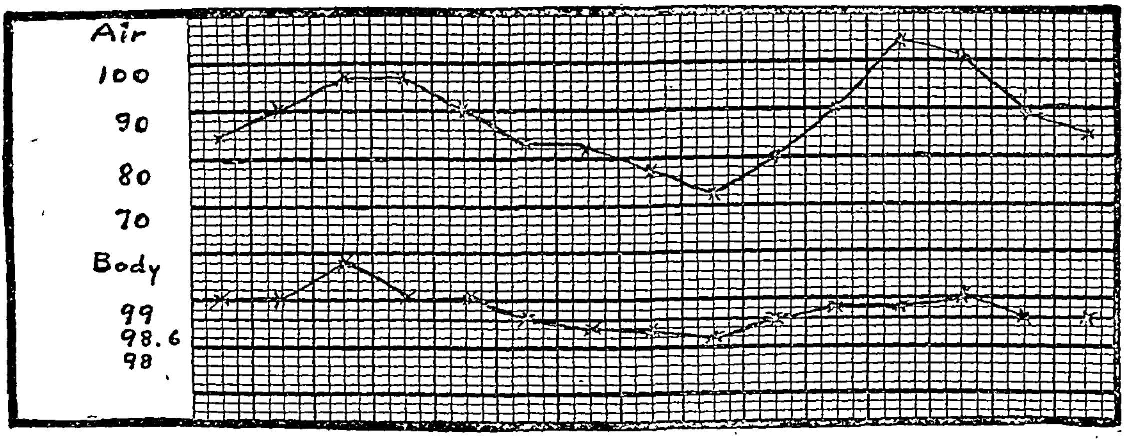

Chart 14

Chart 13.—Fever curve showing acute inflammation with expulsion of tuberculous material in a chronic inactive process.

Chart 14.—Fever curve showing the influence of the atmospheric temperature on the body temperature. Lower curve, body temperature; upper curve, air temperature.

Carefully regulated hygienic living in the open air with rest for both the body and mind, food, selected according to the patient's digestive capacity, and various hydrotherapeutic measures may be advantageously employed in all cases. These measures act by improving the general nutrition of the patient so that he may withstand the effects of fever better, also by lessening some factors which increase heat production, and by bringing about conditions which favor heat loss. None of these measures has any direct effect on the bacteria and their toxins and the enzymes and the products resulting from their action which we have mentioned above as the primary causes of the fever. The primary causes must be combated by specific measures. We know that specific antibodies are formed within the body, which bring about the natural healing of specific infections. This has led to the specific treatment of many of the infectious diseases whose causative germ has been discovered.

Tuberculin has partly won for itself, through probably the most severe trial to which a remedy has ever been subjected, the right to be considered as a specific against tuberculosis. Vaccines made from dead culture of various bacteria which we find associated with tuberculosis have proved to have specific action against pathologic conditions which are produced by their own strain. In spite of these specifics against the bacteria there are many foci which we cannot heal, many temperatures which we cannot lower in advanced tuberculosis. One reason for this is inexact diagnosis; another, that we have no specific against the enzymes and the products resulting from their action. Would it not be profitable to attempt the production of specific remedies against the body enzymes and the products of their action? This would not seem impossible, for Jochmann and Kantorowicz[9] and others have demonstrated antienzyme in the blood. Our conception of the machinery of immunity is such that we are led to believe that the cells of the body must produce substances which protect the body from these enzymes and the broken-down tissues, which are the products of their action. Our conception is that in these advanced cases, the body cells are constantly producing substances which protect the body against the tubercle bacillus and its toxins and the enzymes and the products of their action; and, where other bacteria are associated in the process, against these. Our rational therapy will be effective only as it aids and supplements these natural processes.

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[9] Jochmann and Kantorowicz: Ztschr. f. klin. Med., 1908, lxvi, 153.

This brings us to the discussion of whether or not tuberculin is applicable in the treatment of fever patients. From a long clinical experience including several hundred fever patients, I am convinced that tuberculin when properly administered is of great value in these cases. The requirements that I would make are a thorough acquaintance with the use of tuberculin, close personal observation, such as is available in an institution, and the exercise of care and judgment in the administration of the remedy. I have frequently seen temperatures of 101 and even higher, which were reduced by tuberculin, the fall being coincident with each dose, so as to leave no room for mistake as to the cause. In such instances I have been wont to consider the bacillus and its toxins the chief cause of the rise. On the other hand, I have seen temperatures of less than 100 as well as high ones which seemed entirely uninfluenced by tuberculin. Such, I believe, are those in which absorption of the toxins of other micro-organisms or of the disintegrated tissue are the main cause.

The reason usually assigned for the non-employment of tuberculin in fever is that the patients are already saturated with tuberculin. That this is not necessarily true can easily be established. In the first place, it is probable, as mentioned above, that tubercle toxins are not the chief factor in the production of fever. Again, as noted in a previous paper,[10] if the system of the fever patient were completely saturated with tuberculin, all foci would be the seats of focal reactions which could be easily detected in all visible tuberculous processes such as ulcerations of the larynx and pharynx. But this is not true. Such processes show the focal reactions, however, after injections of therapeutic doses of tuberculin, which, in amount, are short of a fever reaction. Still again, if this were true, all tuberculous foci would break down as a result of the constant focal reactions. Furthermore, if the patient were saturated with tuberculin, the temperature would fall; for excessive doses of toxins would overcome the patient's reactive powers and cause a drop in temperature.

The reason that tuberculin should be employed in the treatment of patients suffering with fever is the same as that for employing it in non-febrile cases; that is, for its effect on the healing of the purely tuberculous processes. There are these in all cases. It must not be supposed that when a patient has an elevation of temperature the entire portion of the lung that is involved is producing the fever. On the contrary, the area which is the seat of activity is often quite small. I have seen temperatures of from 101 to 105 associated with the formation of small ulcers in the larynx and pharynx where I could feel reasonably sure that these small foci were the cause of the temperature (see Chart 15). The probability of this is strengthened by the elevation of temperature which often follows small abscesses. If the correct administration of tuberculin will not cause an intense and dangerous focal reaction, and when intelligently administered, it will not, then we can see that it can be employed in fever cases with the same advantage to the patient as in non-febrile cases. Of course this statement implies that the patient's reactive powers are still good, and capable of responding in the production of antibodies. Personally I have seen many lungs and portions of lungs which were the seat of recent infection clear out under tuberculin, while the patient ran fever and formed cavities in other portions of the lung. Whoever undertakes the treatment of such patients, however, must not expect tuberculin to do the impossible. He must be satisfied with what it is able to do and not look for miracles. It might do all that it can do and the temperature still persist.

My purpose in this paper is to show the actual as well as contributing causes of fever in tuberculosis and to show what measures may be employed against them and at the same time indicate why we so often fail.

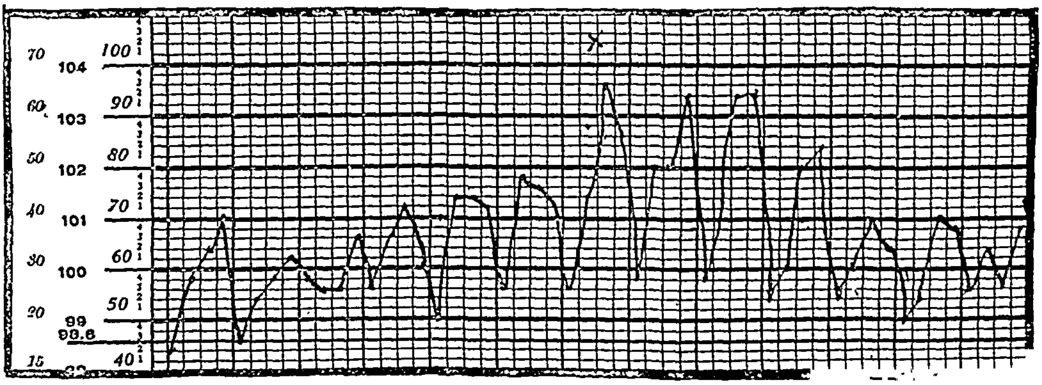

Chart 15.—Fever curve showing elevation in temperature produced by a small ulceration of the pharynx.

ABSTRACT OF DISCUSSION

Dr. Edward F. Wells, Chicago: The temperature curve in tuberculosis is a matter of great importance from many points of view. Several years ago I had occasion to observe closely a number of cases of early tuberculosis, in which it was clearly shown that a slight or moderate rise of temperature, continuing for about a week, with some local and general symptoms, would be followed by a normal temperature and subsidence of symptoms for about a month. These cycles, each somewhat more pronounced than the one preceding, were repeated with considerable regularity. These observations were published at the time, and my only object in again calling attention to them is in relation to the practical bearing which they may have on diagnosis by the tuberculin reaction, when the agent is given hypodermically. It is clear that should the administration be made at the inception of one of the febrile periods the height to which the temperature might rise is not a correct measure of the reaction.

Dr. Norman Bridge, Los Angeles: I should like to compliment Dr. Pottenger on the ingenious explanation made regarding the origin of fever in tuberculous patients. I think that he is probably correct. I should like to enter a protest, however, against some of his declarations in regard to the use of tuberculin. He says: "Tuberculin, when properly used, does a great deal of good." I sincerely hope that is true. But I do not believe there is anybody living who can state positively that it is true. I certainly wish that it might be true. To my mind there is no sufficient evidence of the great value of tuberculin. Many have claimed that there is positive evidence of the value of tuberculin; in times past there has been no doubt a great deal of injury done by the use of excessive doses of this agent. Those who are now using this agent should be cautioned. I am positive that it does but a small amount of good compared with the good that results from general hygienic treatment.

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[10] Pottenger: Tuberculin as a Therapeutic and Diagnostic Agent, in Hare's Modern Treatment, 1910, i.

With regard to Dr. Pottenger's other statement about the person who knows how to use tuberculin, I should like to enter a gentle and friendly protest, because no man living knows absolutely how to use tuberculin. In my judgment the only real and safe way is to use it in doses so small that it can do no harm; it should be given at intervals so long that no harm can come from the frequency of its administration. Time should be allowed between doses to learn if any harm results from the tuberculin. One should endeavor to learn exactly just the amount of tuberculin to give and the intervals between doses. One cannot generalize from the results obtained in a few cases; one can only generalize from the observation made of a large number—hundreds—of cases of those who have been treated side by side with and without tuberculin. And there are but few men who have had experience enough and have carried their parallel observations far enough and carefully enough to enable them to speak with authority. However, I hope the profession will continue to use tuberculin. I am in the habit of giving 1/500 mg. once a week only. I think that no harm can result from such small doses, but that some benefit will result in some cases. But that the giving of this agent in any case will be productive of great good, I do not believe.

Dr. Frank Billings, Chicago: I supposed that the question of the fever in tuberculosis had been pretty well settled and that it was due to toxins. Last year while in England I enjoyed a visit with Dr. Paterson, who explained his method of treating tuberculosis by auto-inoculation. Of course I knew something of it before my visit and had seen some of the results of its employment here. If I understand Dr. Pottenger correctly he does not believe that tuberculin in any dose produces or reduces temperature. I simply rise to ask his opinion regarding this point. Were these patients afflicted with the miliary type or the acute ulcerative type?

Dr. Philip King Brown, San Francisco: I also rise to ask a question. I do not understand what Dr. Pottenger means by autolysis in fever in tuberculous patients. This is rather a technical term and difficult to follow in connection with what he says regarding fever in tuberculosis. I have labored under the impression that there was a toxic agent at work which produces fever in this disease. As a matter of fact Dr. Vaughan made some interesting experiments, reported before the Association of American Physicians last summer, on the protein reaction as a cause of fever in bacterial diseases. The animal experimented on could be caused to have temperature of any type by the introduction of some protein substance subcutaneously. Most of the work was done with egg albumin. Dr. Vaughan explained the resulting fever as depending on some anaphylactic action. The extent of this reaction depended on the frequency and the amount of the protein introduced. I should like Dr. Pottenger to state whether he had gone into this carefully and what he means by stating that toxins do not cause or increase the fever.

Dr. C. F. Tenney, Toledo, O.: I have given tuberculin with beneficial results when the temperature has not been above 99.4 F. If the temperature is higher than 99.4 F. I believe that rest is indicated. I should like to ask Dr. Pottenger why he gave tuberculin when there was a high temperature.

Dr. F. M. Pottenger, Monrovia, Cal.: If I had been permitted to read my paper in full the various questions asked me would most probably have been satisfactorily answered. Dr. Bridge has certainly been unfortunate in his experience with tuberculin. I wish to state emphatically that I do not agree with what Dr. Bridge has stated regarding the use of tuberculin. The intelligent use of tuberculin, like all other remedies, consists in individualization, suiting the dosage to the individual patient under treatment. When one uses tuberculin after the manner described by Dr. Bridge, unsatisfactory results are sure to follow. One does not operate in any two cases of appendicitis alike, or treat any two patients with typhoid fever the same, neither does one administer digitalis nor strychnin alike in all cases, and yet Dr. Bridge would have us give 1/500 mg. of tuberculin once a week to all patients who are treated with tuberculin. I would not want to have it go out from this meeting that this is the proper use of tuberculin. Such a method is erroneous and incapable of producing the best results.

For fifteen years I have preached the importance of individualization in the use of tuberculin. To give so many drops of this or that dilution at certain intervals cannot be expected to be productive of much good. One must bear in mind what tuberculin is and what it is supposed to do. Unless great care is used in its administration much harm may result, but when used intelligently good must just as necessarily follow.

When tuberculin is being used all other measures which are recognized for building up the patient should be employed.

Tuberculin can be employed as intelligently as any other remedy that we have. We cannot give a satisfactory explanation of the action of many of our remedies, but this must not deter us from using them according to our clinical observations. Small doses of tuberculin are not necessarily conservative. The proper method of using tuberculin is to give the right dose at the right time. If one starts in with small doses and increases them gradually, the patient will soon bear the doses without danger of reaction. In my private work I always have more than 100 patients under treatment with tuberculin and yet I rarely have a rise of temperature of more than ½ degree as a result of its administration. I agree with Dr. Bridge that no one knows exactly how this remedy acts. Who knows all about digitalis or strychnin? Our lack of knowledge, however, does not deter us from producing good results.

Dr. Billings speaks of the work of Paterson. I am familiar with Paterson's observations and think he is doing an admirable work, but it must not be forgotten that he is dealing exclusively with early inactive cases. The patients of whom I am speaking are almost all advanced and suffering from active tuberculosis. Rest is an absolute essential in the treatment of all cases of active tuberculosis. I always enforce it if the temperature is above 100, and in many cases in which it is under, if other conditions would indicate it.

Regarding Paterson's interpretation of every rise of temperature following exertion, as an auto-inoculation, I think there is some room for question. I do not believe that all these can be ascribed to an auto-inoculation of tuberculin. There are other factors which come in.

Regarding the effect of large doses of toxins in reducing temperature, many experiments have been performed in which staphylococci and streptococci as well as tuberculin have been employed, showing that following the injection the temperature was markedly decreased, and if the dose is fatal the animal dies with subnormal temperature.

In reply to Dr. Brown regarding enzymes and autolysis, I would refer him to the excellent work done by Frederick Muller, Ascoli and Bezzola, and Opie. From my clinical experiments I believe that enzymes and the products of autolysis are very important factors in the production of fever and that they deserve very careful study.

Significance of the Death-Rate.—The general death-rate is the most important single piece of evidence of the health of a place, says W. S. Rankin in *Bulletin of the North Carolina Board of Health*. Just as general vitality in an individual is counted in the rise and fall of the pulse wave, so the general vitality of the body politic is counted in the rise and fall of its death-rate. At first glance this symptom might appear as misleading. In certain cases attention might be called to the fact that diseases like hookworm and malaria rarely terminate fatally. This seeming inaccuracy disappears when we recall that diseases, not of themselves terminating in fatal issue, tend to that end by lowering the general resistance of the body to death-dealing germs, and so indirectly and ultimately register their existence in increasing death-rates.

EXPERIMENTS ON THE RELATION OF THE THYROID TO DIET *

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From the results of some recently published experiments[1] I suggested the hypothesis that certain diets have specific effects on the activity of the thyroid gland; the results of these physiologic experiments were, in part, in accord with histologic studies made some time ago by Watson. This hypothesis was based largely on the fact that certain diets have an effect on the resistance of animals to certain poisons similar to that caused by the administration of thyroid, and, further, on the observation that the effect of the administration of iodin to animals is, in part, determined by the character of the diet; it was held that the latter determined the ability of the thyroid to combine with the iodin.

I have recently endeavored to put this hypothesis to further experimental test. The results are in entire harmony with the above views, although I do not consider the experiments sufficiently numerous or varied to be entirely conclusive.

METHOD

The method was the same as that used in the preceding experiments, and is based on the increased resistance which mice show to acetonitril after the feeding of thyroid.

It had been found in earlier work that the resistance to this poison was much greater in the case of mice which had had a diet of oatmeal, or of oatmeal and liver, than in the case of those which had had a diet of eggs, crackers, and milk.

The effect of these diets on the resistance to the poison was now determined in mice from which the thyroid glands had been removed.

In the first series the thyroids were removed from a large number of young mice. In many cases the operation was not satisfactory, portions of the thyroid undoubtedly being left. A considerable number of the animals died, many of them in tetany. The survivors were placed on the exclusive diets of eggs or of oatmeal for thirty days, when their resistance to acetonitril was determined. Table 1 shows the results:

TABLE 1.—FATAL DOSE OF ACETONITRIL IN MG. PER GM. OF MOUSE

	Controls.	Thyroidectomized.
Egg-fed	0.40-0.43	0.44
Oatmeal-fed	0.85	0.63

The normal mice fed on oatmeal were, as usual, more resistant to the poison than the normal mice fed on eggs. Thyroidectomy had had no effect in the case of the egg-fed mice, but had distinctly lowered the resistance of the oatmeal-fed mice. This result is in harmony with the hypothesis that the high resistance of the oatmeal-fed mice is due in part, but only in part, to an effect of this diet on the thyroid.

In the second series, young mice were kept for a few weeks on diets of oatmeal and liver, and on crackers, milk, and eggs. The thyroids were then removed from a number of each group and the same diets continued for twelve days. The thyroids of the oatmeal and liver-fed group were invariably very large and vascular, bleeding readily; those of the other group were exceedingly small and pale. About 80 per cent. of the oatmeal-fed mice died, most of them in tetany; 33 per cent. of the other group died. Twelve days after the operation the fatal dose of acetonitril was determined with the results shown in Table 2.

TABLE 2.—FATAL DOSE OF ACETONITRIL IN MG. PER GM. OF MOUSE

	Controls.	Thyroidectomized.
Crackers, milk and eggs	0.15	0.17
Oatmeal and liver	4.3	2.2

Thus the controls which had been kept for several weeks on the oatmeal-liver diet were far more (almost thirty times as) resistant to the poison as those which had been on the diet of crackers, milk, and eggs. Thyroidectomy had little effect on the resistance of the latter; it lowered that of the former by about one-half.

The next series is of interest from another point of view. A large number of young mice were fed for thirty days on oatmeal, crackers and eggs, before the removal of the thyroids. This diet was selected on the belief that the mice receiving it would have neither the large and excessively vascular thyroids of those fed on oatmeal and liver, nor the extremely small glands of those fed on crackers, milk, and eggs. As a matter of fact the thyroids were of medium size and easily removed. The fatal dose of acetonitril for the controls of this series was 1.8 mg. per gram (as compared with 4.3 for the oatmeal-liver-fed mice, and 0.15 for those of the preceding series fed on crackers, milk, and eggs).

The thyroidectomized mice and a number of the controls were then given crackers containing 0.1 per cent. potassium iodid for ten days, when their resistance to acetonitril was determined; the results shown in Table 3 were obtained.

TABLE 3.—FATAL DOSE OF ACETONITRIL IN MG. PER GM. OF MOUSE

	Controls.	Potassium Iodid.
Normal	1.8	1.8
Thyroidectomized	...	0.7

As a rule the administration of potassium iodid (and many other iodin compounds[2]) to mice increases their resistance to acetonitril (increased activity of the thyroid); that it did not do so in this case was probably due to the inability of the thyroid, for some reason, to combine with the iodin. The thyroidectomized mice withstood less than half as much acetonitril as did the controls. This I believe to be due to the absence of thyroid secretion.

The above experiments shows that the high degree of resistance of mice to acetonitril caused by certain diets is due in part to the activity of the thyroid gland. In cases in which the thyroid was apparently not very active (as judged by its small size and the low resistance to acetonitril), its removal had no effect on the resistance to the poison; this was the case with the mice fed on eggs, and crackers, milk and eggs.

I had found in earlier experiments that removal of the thyroid did not have a constant effect on the resistance of guinea-pigs to acetonitril; Carlson and Woelfel state that they obtained similarly negative results with rats and mice. The above considerations seem to sufficiently explain such negative results; the latter do not at all invalidate the conclusion that the acetonitril test is a test for thyroid activity, at least when the latter is exaggerated.

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Bull. 69, Hyg. Lab., P. H. and M.-H. S.

[2] Hunt and Seidell: Jour. Pharmacol. and Exper. Therap., ii, 15.

In other experiments the thyroids of the mice (or of other animals) which had received special diets were removed and fed to other mice; the resistance of the latter to acetonitril was then determined. There is obviously more than one possibility here: a thyroid might be very active but, owing to conditions favorable to secretion, contain at one time little of the secretion itself; this seems to be the case, for example, with the thyroid in exophthalmic goiter. Or the thyroid might be very active and also contain a considerable amount of the secretion. Both of these possibilities seemed to be realized in my experiments; with some diets the greater the resistance of the animal to the poison the less was the protective action of its thyroid when fed to other animals. With other diets the reverse occurred; the greater the resistance of the animal the greater the activity of its thyroid. The following is an example of the latter class of experiments:

One group of mice was kept for several weeks on a diet of crackers, milk, and eggs; the fatal dose of acetonitril was 0.1 mg. per gram of mouse. Another group was kept on a diet of oatmeal and liver; the fatal dose of acetonitril was 0.33 mg. per gram. The average weight of the mice of the former group was 19.81 gram; that of the latter 19.52 gram. The thyroids were removed from the two groups, dried, and fed to other mice so that each of the latter received one-half of the thyroid of a mouse per day. After ten days the resistance of these mice was determined: The normal (control) animals died from 0.7 mg. acetonitril per gram; those receiving the thyroids of the group fed with crackers, milk, and egg died from 1.6 mg., those receiving the thyroid of the oatmeal-liver-fed group died from 2.3 mg. Thus there was a parallelism between the resistance of the mice and the activity of their thyroids.

Similar results were obtained with rats. In these animals the administration of thyroid causes a lowered resistance to acetonitril; hence a low degree of resistance suggests an active thyroid and vice versa. In one series of experiments rats on a certain diet died from 1.2 mg. acetonitril per gram; rats on another diet recovered from 3.3 mg. per gram. It was suspected that the thyroids of the former would be found more active than those of the latter when fed to mice; this supposition was confirmed: Mice receiving the thyroids of the former group of rats recovered from 3.5 mg. acetonitril per gram; mice receiving the thyroid of the rats of the second group died from 2.5 mg. per gram. Thus here again there are two distinct lines of evidence for the view that the diet has an effect on the activity of the thyroid.

TABLE 4.—RESISTANCE TO ACETONITRIL OF MICE ON SPECIAL DIETS WITH FEW AND MANY OFFSPRING

First Four Months' Diet.	Oatmeal and Liver.	Crackers, Milk and Eggs.	Corn-Meal and Milk.
No. of young born..............	0	97	69
Fatal dose of acetonitril in mg. per gm. of mouse............	....	About 0.23	About 0.55

Second Four Months' Diet.	Crackers, Milk and Eggs.	Oatmeal and Liver.	Corn-Meal and Liver.
No. of young born..............	59	28	41
Fatal dose of acetonitril in mg. per gm. of mouse............	0.27 to 0.45	2.3 to 4.4	2.5 to 4.5

Finally, attention may be drawn to an interesting parallelism between the effect of certain diets on the resistance of mice to acetonitril, and their effect on the reproductive activity of the mice. Four groups of mice, each consisting of three females and one male, were fed on the diets named below for four months; at the end of each month the young were removed and their resistance to acetonitril determined. After four months the diets were changed. Table 4 shows the results.

Thus with these special diets the young of the mice producing the most offspring were the least resistant to the poison: the young of those producing the fewest offspring were the most resistant. Whether this is true with other diets has not been determined. In an earlier paper I showed that in many cases there is a parallelism between the rate of growth and the sensitiveness to acetonitril: a similar parallelism is seen here between the sensitiveness to this poison and the reproductive activity. We are now conducting experiments to determine if there is any relation between the reproductive activity and the rate of growth (as determined by special diets) and the inoculability of carcinoma.

An interesting fact shown in the above table is that the diet seemed to have a long-continued effect on the reproductive activities; mice taken from a mixed diet (of bread and oats) and placed on one of oatmeal and liver produced no young in four months, whereas mice which had received for four months a diet of crackers, milk, and eggs, continued fairly productive when placed on a diet of oatmeal and liver.

SUMMARY

These experiments afford additional experimental support for the view that certain diets have specific effects on the thyroid glands of some of the lower animals. It is probable that analogous relations hold for human beings. Although it is possible that the effects differ in different classes of animals it would be interesting to determine if, in cases of hypothyroidism, the administration of oatmeal and liver, for example, would have a favorable influence, and if the withholding of them from patients with hyperthyroidism would be found advantageous. The most promising class of cases for such observations would be the mild degrees of thyroid derangement, such as those recently described by Kocher in his Nobel lecture.[3]

ABSTRACT OF DISCUSSION

Dr. Theodore G. Davis, Los Angeles, Cal.: This would suggest a practical point; that is, the fact of the thyroid gland antidoting the drugs having benzoyl and anilin bases, as acetanilid and many others derived from that group; as the trinitril is the test for acetanilid and similar compounds.

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[3] The results of the experiments described above are in harmony with the interpretation I have hitherto placed on the acetonitril reaction, viz., that it is a test for the internal secretion of the thyroid; the results obtained by feeding the thyroid gland itself I have interpreted as being due to its containing some of the internal secretion.

Trendelenburg (Biochem. Ztschr., 1910, xxix, 396) has interpreted the results in a different manner. He fully confirmed my results that the administration of thyroid increases the resistance of mice to acetonitril; but he also found that the blood of thyroidectomized cats protected mice against this poison. He believes that in the absence of the thyroid, toxic substances accumulate in the blood, and that these cause the reaction; he also believes that these substances, when absorbed by the thyroid, cause the latter to give the test. Trendelenburg did not test the resistance of the thyroidectomized cats to acetonitril.

These results show how complicated the problem is. It would be useless to indulge in much speculation without further experiments, but it may be suggested that, assuming the processes to be the same in mice and cats, there is a formation of protective substances in the absence of the thyroid, but that these are unable to protect the animal producing them without the interaction of the thyroid gland itself. Or, possibly, in Trendelenburg's experiments thyroidectomy had caused changes in the composition of the blood so that this contained protective substances analogous to those contained in oatmeal, liver, the prostate, etc., or substances which stimulated the thyroids of the mice to increased activity; for while my experiments show that the effect of oatmeal and liver is in part due to an effect on the thyroid they show equally plainly that other factors are involved.

There are no contradictions in the experimental results of Trendelenburg and myself, and there may also be no real contradiction in our interpretation of them.

A PLEA FOR MORE DIRECT METHODS IN DEALING WITH GASTRIC ULCERS AND CANCER *

R. C. COFFEY, M.D.
PORTLAND, ORE.

The strides in gastric surgery during the last ten years have been very remarkable. Originally the first aim of the surgeon was to diminish the mortality of disease with the least mortality resulting from the means of relief, but as Dr. Charles Mayo says, the modern requirement is the relief of morbidity. In other words, the patient not only demands relief from the immediate conditions with a low mortality, but he has a right to expect symptomatic relief and immunity from sequelæ. I dare say that the first thought of most, if not all operators in the early development of the surgical treatment of callous gastric ulcer was the excision of the ulcer. The first stomach operation of any kind that I ever attempted was ten years ago, when an ulcer in the posterior wall and lesser curvature, such as shown in Figure 4, was excised. The patient died from faulty technic and I did no more gastric surgery until I learned more of Mayo's work in gastro-enterostomy. It is possible that other surgeons have had similar experiences which have not been reported.

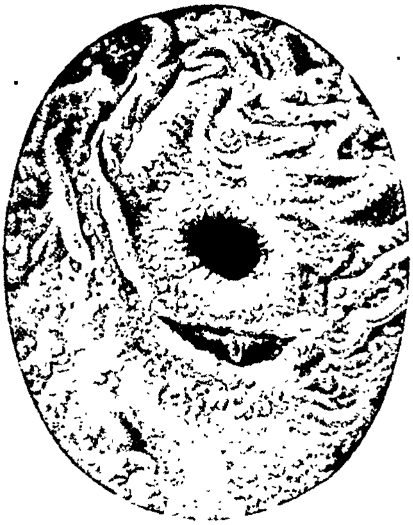

Fig. 1.—Post-mortem specimen of stomach mucous membrane in which is shown a stoma forty-eight hours after a gastro-enterostomy; also a slit in the mucous membrane produced by clamps. Crossing the slit is a vessel which was devitalized by the clamp and which gave way thirty hours after the operation, producing a fatal hemorrhage.

The brilliant work of Mayo Robson, the Mayo brothers, Mickulicz, Moynihan, and others, brought gastro-enterostomy so prominently before the profession and so rapidly reduced the mortality that it became almost the universal operation for gastric ulcer. Soon afterward, however, Rodman ventured to put forth his bold procedure for excising the ulcer-bearing area in the pylorus. The mortality has deterred the majority of surgeons from adopting it, but, as technic has been improving, more and more work is being done along this line. The mortality has been greatly diminished, and, as the reports come in year by year, we learn that many of the ulcers supposedly cured by gastro-enterostomy have been only temporarily relieved, and, in the case of ulcers located at other points than near the pylorus, there has not been even temporary relief in a large percentage of cases; furthermore, the danger of the development of cancer in a callous ulcer is much greater than has been supposed. Gerster[1] makes the following summary on callous ulcer of the stomach:

> During the past year attention has been called by authors, both here and abroad, to the great tendency of callous gastric ulcer to carcinomatous change. Wilson and McCarthy[1] have shown that in 71 per cent. of resections for carcinoma, a preexisting callous ulcer could be demonstrated. This was in a series of 153 cases. At the meeting of the Deutsche Gesellschaft für Chirurgie, in the spring of 1910, Ewald stated, in discussing Payr's report that 26 per cent. of gastric ulcers underwent malignant change, that he considered this estimate far too low. In Germany, the trend of opinion seems to be *developing in this direction. In France* an experience of Tuffier bears out this point. He found an induration of the greater curvature, the size of a nut, with two slightly enlarged lymph-nodes in the great omentum near by. The impression gained was that of a chronic ulcer. It was resected and the nodes extirpated. Microscopic examination revealed a typical callous ulcer, at the base of which a carcinoma was beginning to develop. From this experience he concludes that every gastric ulcer which is solitary, and which is easily accessible, should be extirpated. Many other surgeons have emphasized the impossibility of distinguishing malignant from inflammatory tumors of the stomach by gross examination.
>
> The general trend of opinion seems to be leading to this: that gastric ulcers, situated in the body of the stomach but not yet causing stenosis, are not cured by gastro-enterostomy. Resection, when possible, should be done, not only because the ulcer is not cured by gastro-enterostomy, but mainly because its continued existence is a constant menace as regards the probability of a change to carcinoma.

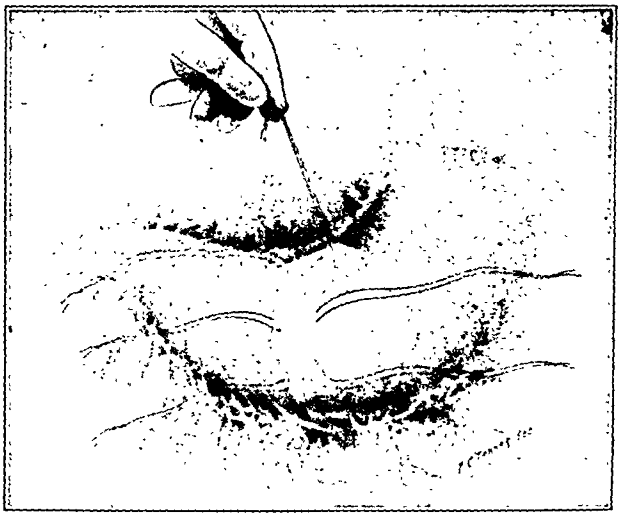

Fig. 2.—Placing traction loops preparatory to opening the stomach for exploration.

Eiselsberg advocates unilateral pyloric exclusion in addition to gastro-enterostomy for ulcers in the pylorus in cases in which the condition of the patient makes resection dangerous or impracticable because of the presence of adhesions; also in those cases in which there is doubt regarding the nature of the tumor existing, and when for apparent reasons one cannot resect. For, as he states, "even a cancer, where it is not subject to the passage of fluid over it, has its growth very much retarded." Eiselsberg further suggests this procedure as a preliminary step to a resection to be carried out on some later occasion.

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

* For reasons of space, a large number of illustrations are here omitted, but the complete article appears in the Transactions of the Section, and also in the author's reprints, a copy of which will be sent on request by the author or by The Journal on receipt of a stamped and self-addressed envelope.

[1] Progressive Medicine, June, 1911, p. 110.

Mayo, in 1908, made the statement that all callous ulcers not located at or near the pylorus should be excised by direct attack. In 1910, he described[2] a method of transgastric excision of ulcers of the posterior wall which he stated had been previously used by Dr. Pilcher. In the same month I published an article[3] in which another method of excising ulcers of the posterior wall was described, and a number of cases were reported. In this work, clamps were used to protect the field. In the very next case of the kind, after the publication of this paper, it became evident that the ulcerating process had extended beyond the clamps, making it necessary to release the clamps and extend the excision. This allowed a good deal of spilling of stomach contents and among other things revealed the fact that the mucous membrane had been injured by pressure of the clamps. The operation was finally completed and the patient recovered. By this case, however, I learned that the use of clamps is by no means ideal for this excision and further that it is not without danger. Curiously enough, my very next stomach operation—although the simplest kind of a gastro-enterostomy for obstructive ulcer and an ideal case—resulted in the death of the patient from secondary hemorrhage from pressure of the stomach clamps, which case I shall relate in detail:

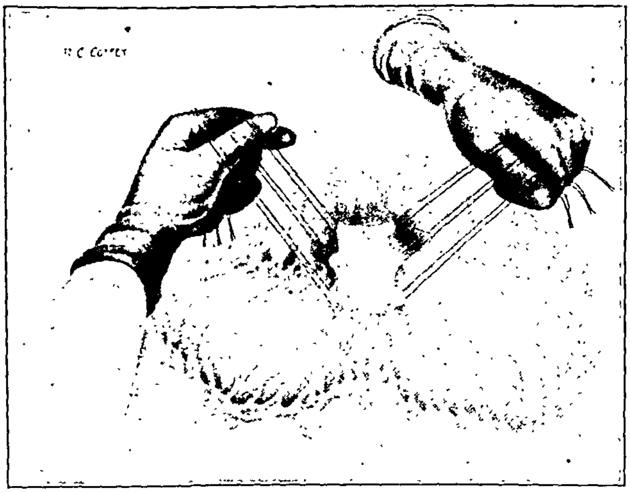

Fig. 3.—Lifting a section of anterior stomach wall by traction loops to permit the air in the stomach to rise to point of proposed incision.

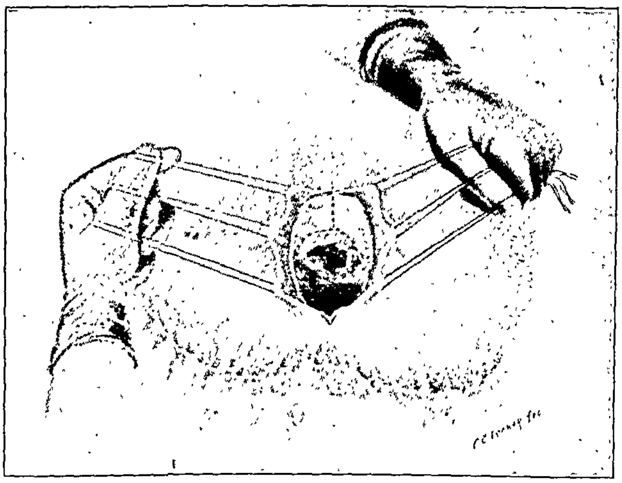

Fig. 4.—The stomach has been incised, exposing the mucous surface. A callous ulcer is seen in the background, while the fluid contained in the stomach may be seen gravitating to the back. Dotted line indicates extent of incision by which this ulcer was removed from the posterior wall and the lesser curvature.

The patient, a male, 50 years of age, had suffered with stomach trouble five years or more. Recently he had rapidly lost flesh and was unable to retain food to any extent. He was referred to me by Dr. Noble Wylie Jones, October 28, with a diagnosis of an obstructive ulcer at the pylorus. The chemical examination of gastric juice showed a slight excess of free hydrochloric acid. October 29, the patient was operated on, a callous ulcer obstructing the pylorus just on the duodenal side was found, and a gastroenterostomy was performed by the posterior no-loop method. The case was an ideal one. The operation was completed in 30 minutes in a very satisfactory manner. The patient was in no way shocked or depressed by the operation and 24 hours after the operation felt well and had a normal pulse and normal temperature. Thirty hours after the operation the nurse noticed an increase in the patient's pulse rate but she was unable to reach me until 36 hours after the operation, or 10 p. m., October 30. At this time the patient's pulse was about 160. I immediately called Dr. Jones and we were unable to make a diagnosis of anything serious. As the patient's wife stated that he had frequently had spells of palpitation of the heart, we tried to persuade ourselves that it was a nervous condition. The patient did not vomit nor was he nauseated. Gas passed from the bowels, but no blood. The temperature was about 100. Therefore we could not believe bleeding was taking place. The patient died at 6 p. m., October 31, 56 hours after the operation. A necropsy was held shortly after death. When the abdomen was opened the intestines were seen to be filled with dark blood. On opening the stomach and examining the ulcer we found that no hemorrhage had taken place from the ulcer. Examination of the stoma, which shows in the center of Figure 1, showed union perfect and no possibility of a hemorrhage. The stomach was practically empty, while the intestines were filled with blood. We realized that death had been caused by hemorrhage but we had not found the point from which the hemorrhage had come, and did not find it until the stomach was entirely removed and washed, when we discovered a slit in the mucous membrane about an inch from the stoma which marked the place where one blade of the clamps had held the stomach. Running directly across this slit in the mucous membrane was a blood-vessel the wall of which had sloughed. The clamp had devitalized the vessel and the gastric juice, being excessive, had undoubtedly digested the devitalized coat of the vessel and the hemorrhage began.

I had previously noted in animal experimentation that the mucous membrane is frequently broken by the clamp in gastro-intestinal anastomosis, but as I had not seen cases of death reported from this cause I inferred that there was practically no danger. The clinical experience just mentioned coupled with what I have seen in animal experimentation has led me to the belief that there have unquestionably been other deaths from the same cause, in which cases the cause has been either undetected or unreported. The function of clamps in gastro-intestinal surgery is three-fold: to hold the viscus for convenient suturing; second, to prevent the escape of large quantities of gastro-intestinal contents; third, to control hemorrhage while the operation is going on. After these experiences I sought to devise a plan by which these ends could be accomplished without the use of clamps and made extensive experimental studies in devising a technic. First, as to the manner of holding the viscus, I soon found that traction loops passed through all the coats, as shown in Figure 2, held it just as well as clamps; second, if traction loops were placed on tension, thus lifting high a part of the front wall of the viscus (Fig. 3), the air in the viscus rose to the top so that when the lifted part was incised, the air escaped, the intravisceral pressure was destroyed, the fluid gravitated to the posterior and lower portions (Fig. 4) from which it could be dipped out with a ladle or dipper, and the viscus could be dried and made clean with gauze without spilling a drop of the fluid (Figs. 5 and 6); third, the hemorrhage could be controlled by temporary use of artery forceps or ligation of the vessels.

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[2] Ann. Surg., December, 1910.

[3] Coffey, R. C., Surgical Treatment of Ulcers Along the Lesser Curvature, Surg., Gynec. and Obstet., December, 1910.

An exploratory incision in the stomach should usually be made transversely, thereby parallelling the vessels and avoiding hemorrhage almost entirely. Through such an incision, after the fluid has been removed by the technic just described, an accurate inspection of the stomach mucous membrane can be made with no danger of spilling the stomach contents or soiling the peritoneal cavity. If an ulcer exists, the remainder of the stomach may be explored for other possible ulcers and the general condition of the mucous membrane inspected. When an ulcer is found, as shown in Figure 4, it is then well to open the gastro-colic omentum and the gastro-hepatic omentum and pack the lesser peritoneal cavity with gauze, after which the ulcer may be excised by any technic which may be suitable for the case at hand, for, after the stomach is well cleaned and inspected as I have described, no matter where the ulcer is, it may be trimmed out with a pair of scissors exactly in the same way in which a bad spot in a garment may be trimmed out, preparatory to mending. The ulcer shown in Figure 4 for excision was located on the posterior wall near the attachment of the gastro-hepatic omentum. It was trimmed out by extending the exploratory incision down nearly to the ulcer, as shown by the dotted line, and then by the cutting out of the callous portion around the ulcer. The wound was then closed just as we would close the original exploratory incision, which process is as follows:

The line of sutures begins from within. The needle passes from within out and from without in and the suture is knotted inside as shown in Figure 7. The loose end is cut off and the suture continued by a right-angle, through-and-through suture the length of the incision. The traction loops are tied together over the line of union, as shown in Figures 8 and 9. These traction loops make inversion of the edges very simple. After this is done a peritoneal suture may be used to cover up all the knots (Fig. 10). This makes an ideal technic. In case the exploration reveals extensive ulceration at the pylorus or reveals a malignancy (Fig. 11) requiring a pylorectomy, the greater omentum below and and the lesser omentum above are ligated in sections and the vessels running along the curvatures of the stomach are doubly ligated at each end. The gauze is also packed into that part of the stomach which is to be retained as well as that part which is to be removed. The lesser peritoneal cavity having already been packed with gauze, the field of operation is practically extraperitoneal. The gauze within the ends of the stomach takes up every particle of the fluid. The exploratory incision is now extended to the point of cutting the stomach in two. Tenaculum forceps grasp the two walls of the stomach and the gauze in each of the divided ends. Two traction sutures are placed in the anterior and two in the posterior wall of the duodenum just below the place at which the section is to be made (Fig. 12).

The section of the duodenum is now made and the pylorectomy is completed. The distal cut end of the duodenum is held up by the four traction sutures, which arrangement causes the fluid to gravitate down the intestine while the end is being sutured after the manner shown in Figures 7 to 10. The cardiac pouch of the stomach is now inspected. If there is any portion of the remaining stomach which looks suspicious, it may be removed with perfect ease. If not, three additional traction loops are placed on the posterior wall of the stomach, as indicated, and the end closed in the manner shown in Figures 7 to 10. The cardiac pouch is now connected to the duodenum by a posterior gastro-enterostomy without clamps, as follows:

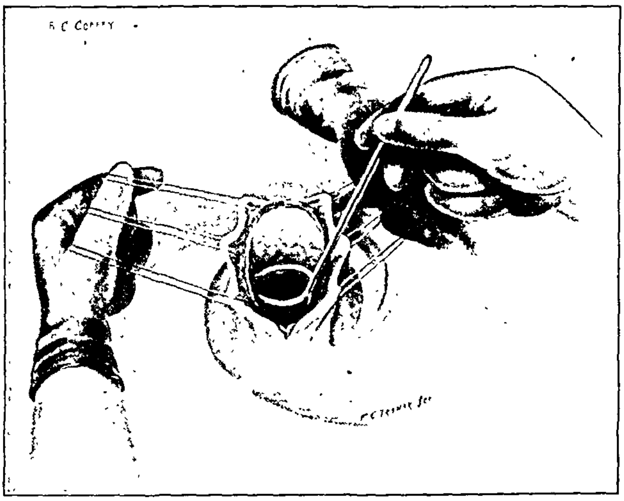

Fig. 5.—Dipping fluid from the open stomach with a ladle.

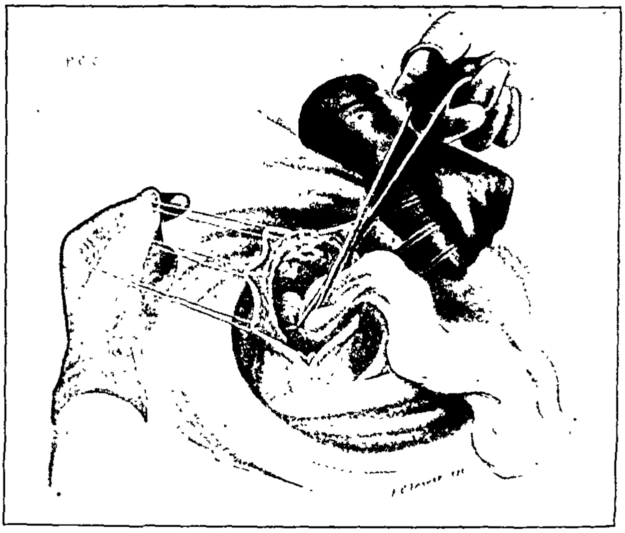

Fig. 6.—Sponging the mucous membrane dry with gauze.

An opening in the mesocolon is made with the finger or forceps just to the left of the ligament of Treitz. Four traction loops are passed through all the coats of the stomach and are so arranged that there will be one traction loop on either side of the end of the line of proposed incision, which line is about 2 inches in length. Four corresponding sutures are placed in the jejunum, the upper one being about 1 inch from where the jejunum emerges. The traction loops in the stomach nearest the intestine and the traction loops in the intestine nearest the stomach are designated inner traction loops (I. T. L.) as they are located inside the proposed line of incision into the stomach and intestine. The other traction loops are located outside the proposed line of incision and are designated outer traction loops (O. T. L.). Gauze sponges are now laid between the stomach and the intestine (Fig. 13). The next step in the operation consists in placing a continuous peritoneal suture (C. S. 1) as shown in Figure 14 which is begun at the end of the incision farthest from the operator. After two or three stitches have been taken the two inner traction sutures at this end are tied over the line of suture. The continuous peritoneal suture (C. S. 1) is then continued to the other end of the proposed incision just beyond the inner traction sutures. This continuous peritoneal suture (C. S. 1) is then knotted on itself and laid aside until all other steps of the operation are completed, when it is continued around the anastomosis as a finishing suture. The other inner traction loops are now tied together, and are from now on used to hold up the intestine (Fig. 15). In order to be sure that this peritoneal suture is not disarranged by the further steps of the operation, a continuous through-and-through suture of catgut is run from one pair of traction sutures to the other (on the posterior side only) before any incision is made in the stomach or intestine (Fig. 16). This suture has been designated the posterior reinforcement suture (P. R. S.).

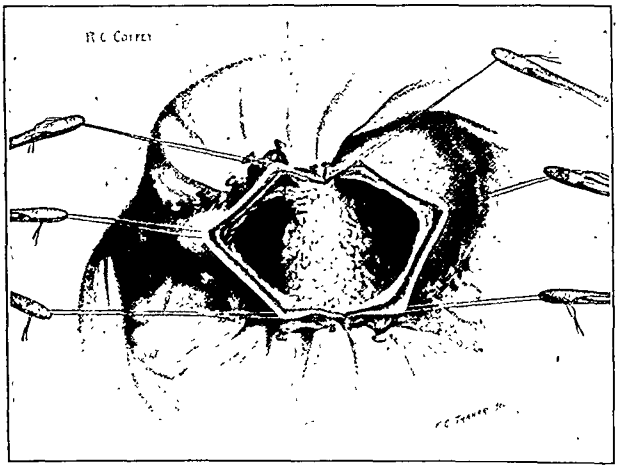

Fig. 11.—A transverse exploratory incision to determine the extent of a cancer of the pylorus developing on an ulcer. Gastrocolic and lesser omenta have been cut and the lesser puritoneal cavity is filled with gauze. The stomach has been emptied and dried, as in Figures 5 and 6. Vessels at the upper and lower borders of the stomach have been ligated preparatory to doing pylorectomy.

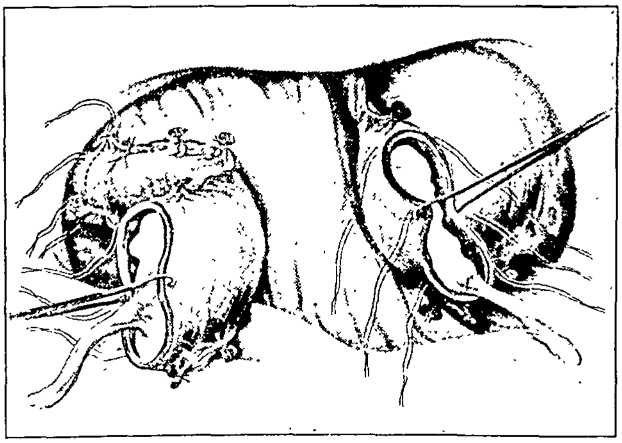

Fig. 12.—Stomach has been cut near the middle and each end is packed with gauze to prevent soiling. Three additional traction loops have been placed in back wall of the cardiac pouch preparatory to closing this remaining portion by technic, shown in Figures 7 to 10, inclusive. The pyloric portion has been freed and is ready to be removed by cutting the duodenum at the dotted line. Traction loops have been placed on each side of the duodenum to facilitate the technic of its closing.

An assistant now picks up the outer traction loops (O. T. L.) and lifts up the stomach and intestine while the surgeon makes an incision with the knife down to the mucosa and then opens the mucosa with a pair of scissors (Fig. 17). There will usually be two or three bleeding vessels on the stomach side which should be caught with mosquito forceps and ligated with small thread. It will be found on opening the stomach and intestine that the fluid has gravitated away from the field, leaving it perfectly clean and doing away with the necessity of any clamps or constriction. The second continuous suture (C. S. 2) then begins at the end of the anastomosis nearest the operator and proceeds as an over-and-over stitch to the opposite end (Fig. 18), when the corner is turned and this suture (C. S. 2) returns to the operator with a right-angle, continuous through-and-through suture indicated in Figure 19, where it is tied to its other end. The outer traction sutures are now tied over the line of union. The second continuous suture (C. S. 2) may be chromicized catgut or linen. For the final step of the operation the continuous peritoneal suture (C. S. 1) is now picked up and made to cover in the through-and-through suture and the knots of the traction loops, and it is finally tied to its originally free end (C. S. 1, Fig. 20) In more than fifty experimental operations by this method our average time has been about fifteen minutes. Under exactly the same circumstances we are able to do this operation just as quickly as when we have used the clamps. The line of suture is made much stronger at the ends by the inner traction sutures posteriorly and the outer traction sutures anteriorly than can possibly be done without the traction loops. The reader will readily observe the immense holding power of these traction loops after they are tied together, by looking at Figure 21, which represents a sectional view across the ends of the anastomosis. Figure 22 shows a sectional view across the middle of the anastomosis, which differs in results from the ordinary clamp method in use when clamps are employed only by having the posterior reinforcement suture.

We have recently removed the cecum for carcinoma and have then made an anastomosis between the ileum and the transverse colon by this method. To our delight we found that the fluid within the closed intestine, both large and small, had gravitated away from the field of operation, leaving the field perfectly clean (Fig. 23). The necessity for leaving an inch or two of dead end of the ileum and cecum into which part of the fluid at the site of operation may gravitate will readily be appreciated.

The gastro-enterostomy without clamps here described was primarily intended only for those cases in which the stomach had previously been emptied through an exploratory incision and it was thought that it would be necessary to constrict the intestine above and below with gauze to protect from intestinal contents, but we soon found that the field was much cleaner without constriction, for no matter how much we tried, the inclosed field could not be stripped perfectly clean when clamps were used. The gastro-enterostomy can be done without clamps on an unopened stomach provided the site of operation can be lifted to a higher level than the other portion of the stomach, and the fluid can be removed by the method shown in Figures 5 and 6. If, as a result of adhesions, or a short mesocolon, it is impossible thus to lift the stomach, it is necessary to empty it by the method shown in Figures 2 to 6, as a preliminary step, which process it is probably wise to follow in most cases of ulcer of the stomach for purposes of exploration. In simple uncomplicated obstructive ulcer at the pylorus not requiring exploration there is still a field for clamps.

CONCLUSIONS

In summing up I find:

First.—It is generally the opinion of progressive gastric surgeons that callous ulcers of the stomach not located near the pylorus should be excised, and there is a rapidly growing belief that the Rodman operation should be performed more frequently, (a) because the drainage operation does not always cure; (b) because of the large percentage of callous ulcers (26 per cent.) which become cancerous.

Second.—In order to do good ulcer surgery it is necessary to determine the extent and location of the ulceration. This can only be done properly as a rule through an incision in the stomach wall and when clamps are not used.

Third.—The incision should be ample and should usually be made transversely to avoid the vessels, after which step the inside of the stomach should be seen. By the use of deeply placed traction loops the anterior wall of the stomach is lifted, the gas in the stomach comes to the top and escapes when the incision is made, thus relieving the intragastric pressure. The fluid now immediately gravitates to the lower levels of the stomach cavity, from which it may be dipped and sponged with deliberation. After the stomach is thus emptied and the cavity dried, the inspection of the mucous membrane is easy and the mystery and difficulties of stomach surgery vanish; for the surgeon, after opening the omentum above and below the stomach and packing the lesser peritoneal cavity with gauze, proceeds to trim out the diseased portion with the same precision and completeness with which he would amputate a leg for gangrene or remove a breast for cancer.

Fourth.—By the use of traction loops, gastro-enterostomy may be done by the "no-clamp" method just as quickly as with the clamp method, much more directly and accurately, and with less soiling and less danger. Pylorectomy for ulcer or cancer is also done in a more correct surgical manner by using the traction loops than by the use of clamps. Another advantage is that the remaining portion of the stomach may be carefully inspected again after the gauze is removed from its cavity with the view of detecting any disease which may exist.

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ABSTRACT OF DISCUSSION

Dr. J. W. Draper Maury, Rochester, Minn.: Many methods have been suggested for the excision of gastric ulcers and the last word remains to be said. This is because the problem is wrapt up in a cancer equation yet to be solved. Sufficient is known, however, to justify the positive statement that any technic which does not insure the freest possible removal beyond the ulcer margin is worthless, because in over 70 per cent. of ulcers the margin is carcinomatous. At St. Mary's hospital we have worked out on animals a method of ulcer excision by a strangulation stitch which under certain conditions has certain advantages over ordinary excision. In the majority of cases it cannot be used to advantage. It is much more rapid than excision; has been free from fatality in experimental work and does away with all hemorrhage and annoying gaping of the wound. It seems to me probable, however, that even the limited use to which we thought it might occasionally be put will probably be still further restricted by the method that Dr. Coffey has just presented.

A stitch consisting of two pentagons, one lying on the mucous surface of the stomach, the other on the serous surface, may easily be applied by a continuous suture. The tissue within the pentagons will be deprived of blood-supply when inversion and tight tying of the stitch occurs. It is obvious that an odd-sided figure must be used in order completely to surround and "scissor" the included tissue. Dr. Selby, by the clever employment of litharge and wire, has prepared a radiograph of a hypothetical ulcer. In this, double strands of the stitch can readily be seen and its constricting action understood.

In from fifty to one hundred hours the gangrenous tissue, including the ulcer, sloughs. Dr. MacCarty has made some studies on the residual tissue which suggest encouraging results.

The essentials in the use of this method are as follows: (1) The use of heavy linen twine which the bare hand cannot break; (2) the placing of the pentagon well beyond the ulcer in normal tissue; (3) the careful suturing of the serosa by Lembert stitches after the pentagon is tied. Without these it will certainly perforate.

Dr. W. W. Skinner, Geneva, N. Y.: Possibly some present heard me describe very briefly at Atlantic City two years ago the operation which has been described so ably to-day. Dr. Zimmer of Rochester, N. Y., and I made use of this method in 1896. The case was one of bullet wound perforating both walls of the stomach. At my suggestion the bullet wound in the anterior wall of the stomach was enlarged and the stomach contents, which consisted of a large supper eaten just before the accident, were removed. The posterior wall of the stomach was pulled through the anterior stomach incision, the bruised posterior area cut out, and the incision enlarged sufficiently to inspect the region behind the stomach, so that we were able to trace the bullet wound through the tail of the pancreas and into the muscular tissues behind. This patient made an admirable recovery. The posterior cut was sewed from the inside of the stomach with three layers of stitches. We used the buttonhole stitch. Since then I have used this operation a number of times in cases of posterior ulcer of the stomach, which I referred to in the discussion two years ago.

The advantages of this operation are very great. In the first place, if you make a vertical incision through the lesser omentum, the exposure of the posterior wall of the stomach is very inadequate; if you make an incision transversely to the line of the body, you cut off important blood and lymphatic supply and nerves. An incision through the anterior wall of the stomach, selecting a place where the blood-vessels are very few, is comparatively free from danger.

A method which I use in some cases is the following: During the first stages of anesthesia a small-sized nasal feeding tube is passed through the nose into the stomach; the stomach is washed out while the anesthesia is going on and the tube is left *in situ;* and then just before opening the stomach this washing is repeated.

During the anesthesia there will be jets of green fluid from the tube, which otherwise would be spilled into the peritoneal cavity. This procedure causes no strangling and no trouble.

I agree with Dr. Coffey that no clamps are needed. It is sufficient to pull the posterior wall of the stomach through the anterior. That makes a sufficient clamp, and the preliminary washing prevents infection.

When I use clamps, I am accustomed to make use of very small and simple ones. I refer to the ordinary little pine tongue-depressors that are sold by the thousand. They make a most admirable clamp, if thoroughly steamed, boiled or otherwise sterilized. The trouble with the steel clamp is that it exerts a constant and increasing pressure, whereas the little pine pieces (of which I use four tied with catgut) exert a uniform flat pressure throughout the operation.

DR. E. WYLLYS ANDREWS, Chicago: If we are about to return to the direct surgical treatment of gastric ulcer, which was so nearly supplanted in routine practice by the general adoption of gastro-enterostomy, it would be well for us to remember certain advantages and certain disadvantages of this direct method of operating. As to the advantages, those who have not tried direct opening of the stomach are not aware of the great ease and safety with which that organ can be laid widely open and its whole interior exposed. No clamps are necessary, the field can be amply protected by sponges, and the stomach can be drawn entirely out and lie on the anterior abdominal wall. The incision can be made vertically between two of the large superficial branches of the vessels running on the greater curvature, and made bloodless and as long as we wish it; that is, the length of the incision may be made the whole width of the stomach. With such an opening one can explore nearly the whole interior of the stomach and can close it again quickly and safely.

Long-continued experimentation on animals, as well as many successive operations on the human stomach, have led me to lose all fear of this procedure as one step in necessary technic.

If the pendulum is going to swing in the direction of this kind of work again, one must mention among the disadvantages that certain parts of the stomach cannot easily be inspected. At least 6 per cent. of the peptic ulcers lie near the cardia and that portion of the stomach cannot be drawn out or seen except by means of a glow lamp or reflected light. Ulcers near the pylorus cannot be drawn out or treated surgically, unless by a Rodman excision, or as Kocher and some others did, by pyloroplasty directly through the pylorus. In bleeding ulcer, or a peptic ulcer not bleeding, one perhaps causing obstruction, Finney's operation is more radical and effective than pyloroplasty. A further problem and drawback to this kind of work is the puzzle of what to do after finding the ulcer. The ulcer may be excised and the wound sutured; the vessel if bleeding may be ligated inside or outside the stomach wall, or at the bottom of the ulcer; the ulcer may be treated by the hot cautery point and some bleeding vessels thus checked; or the ulcer may be ligated by lifting a cone of stomach tissue from the inner aspect. But this is somewhat unsatisfactory and dangerous, unless protected by an outside row of stitches. After having solved the problem of opening and finding the ulcer, which of itself is not always easy, with all the proposed and tried methods of dealing directly with ulcer, none of them as yet has seemed to be ideal.

DR. CHARLES H. MAYO, Rochester, Minn.: In something over 1,100 gastro-enterostomies performed at our clinic, we have encountered about every kind of complication. We have had nothing serious in the line of operative injury that Dr. Coffey speaks of, and yet we have had to reopen wounds on account of hemorrhage in the line of union, or the suture line, from the stomach to the intestine. We have also had to reopen because of hemorrhage from the ulcer, and we have had deaths occur following hemorrhage from the ulcer, and from perforation, although in the old days we were taught to believe that ulcer was cured and all hemorrhage would cease the moment gastro-enterostomy was performed. But we all know that gastro-enterostomy is merely a drainage operation and does not have a healing action on the ulcer. With drainage unobstructed, the ulcer may get well, but merely because a patient stops bleeding from an ulcer, or the pain ceases, is no sign that the ulcer has healed.

An excavating ulcer does not become cured unless excised or unless Nature cures it by a perforation. When Nature perforates an ulcer, all the coats are brought together and up to that point it is not a recurring ulcer but the same ulcer. The point is merely that it dips in a little deeper or spreads wider. Maury has devised a stitch which can be used on deep ulcers and to control hemorrhage, which has been used experimentally on animals, and we have used it on the human subject in a few instances, apparently with great benefit.

The question of whether or not we should use clamps is a point of technic. We much prefer to use steel clamps occasionally. One cannot otherwise always get a stomach up as it is necessary to do to carry out the technic presented by Dr. Coffey in his excellent paper.

In the treatment of ulcers we should recognize and overcome the danger of hemorrhage and recognize the possibility of the subsequent development of cancer, since ulcers of the stomach are liable to precede carcinomatous conditions.

Ulcers in the duodenum, embracing nearly two-thirds of all the ulcers in this region, are fortunately not prone to become carcinomatous. Very few operators, in a lifetime of surgery, will ever see a primary cancer of the duodenum, except at the ampulla, where the intestine is opened in excising the carcinoma; but it really does not belong primarily to the duodenum; therefore circular sutures may be used on an ulcer in that location to depress it, if the tissue resistance is such that it can be depressed, and protecting sutures can be placed over the point of inversion.

This operation is a serious one if there is but little acid in the stomach. Often the stomach acid content is very low, and patients succumb to sepsis.

DR. A. J. OCHSNER, Chicago: Severe, dangerous hemorrhage has occurred so seldom after the application of ordinary pressure clamps in the operation of gastro-enterostomy that I believe when it does occur it is because of the softened condition of the tissues in the vicinity of the ulcer. If the clamp is applied within a relatively short distance from the ulcer, I believe that the accident which happened in this case is not only possible but likely to occur. Ordinarily that is not necessary. The anastomosis should always be made at the lowest point of the stomach, as shown us many years ago by W. J. Mayo; and when that is done, I believe that one can safely apply the pressure-clamp without the danger of hemorrhage. I have seen two or three cases of hemorrhage in instances in which the sutures were not as perfectly applied as they should have been, at the junction of the gastro-epiploic vessels with the wound. But the danger of which Dr. Coffey speaks I believe is one which occurs only rarely and which should be avoided. In cases in which one cannot make the anastomosis at a considerable distance from the ulcer, one should perform the operation which Dr. Coffey has shown us. All of the facts which Dr. Coffey has illustrated here I have personally experienced. The fear of soiling and of hemorrhage during the operation really amount to very little, if the operation is performed as described by Dr. Coffey.

Many years ago, while I was Professor Senn's assistant, he made this identical operation. Since that time I have performed this operation by applying very delicately toothed forceps to the blood-vessels at the margin, grasping all of the layers of the intestinal wall, that is, the mucous layer, the muscular layer and the serous layer, and placing these clamps at regular intervals.

As regards the pentagonal stitch that Dr. Maury has shown us, the difficulty about that stitch in practical application is this: It works beautifully in the stomach of the dog, and undoubtedly would work beautifully in the normal human stomach. Since Dr. Maury has introduced this stitch I have not had a case in the human being in which it seemed as though it would work. Where the ulcer is small it is not necessary, and where the ulcer is large you would have to fold in so large a portion of the stomach wall that the covering would be very much more difficult and much more prone to cause a troublesome deformity which might ultimately result in obstruction, than would simply excising the ulcer and making the suture as done in Dr. Coffey's cases.

Regarding the operation that Dr. Skinner has described, I wish to state that in 1891 Dr. Charles T. Parks described this very operation and performed it in a case of gunshot wound through both the anterior and posterior walls of the stomach.

Speaking of approaching the posterior wall of the stomach, the best way, if the anterior wall is punctured by a small perforation, which is very commonly the case in gunshot wounds, is to lift up the transverse colon and split the transverse mesocolon precisely as one does in posterior gastro-enterostomy, which is a much more simple operation than the one that has been described. Then drain through the lesser omentum, and you still have perfect drainage.

Dr. Robert T. Coffey, Portland, Ore.: The technic of sewing is the same as that used when we use clamps. The principle that I wished to bring out was the method of lifting up the front wall of the stomach with traction loops, thereby making an air bubble which escapes when the stomach wall is incised and relieves intragastric tension; the fluid then gravitates to the lower levels and may be dipped or sponged out without spilling, and much more perfectly than when clamps are used or by the freehand methods which previously have been described. Danger from the spilling of fluid contents is not great, but it is annoying to an esthetic operator, and it can be avoided providing you lift the parts up as shown. That is the principal point. As to describing the technic of removing the ulcer, that is not intended to be a major part of the paper at all. It is simply a matter of so cleansing the stomach that we can go ahead and do any operation which seems advisable on the stomach with just as much ease and care and just as much nicety as we can amputate a leg. Besides using the traction loops for holding the stomach while cleansing, I have used them to strengthen greatly the line of suture and facilitate the turning of peritoneal surfaces.

Dr. Andrews stated that it was impossible to see ulcers of the cardia. It is not impossible, if you will make an incision at right angles to the median incision following the rib arch on the left side. You will find that you can very easily inspect the entire stomach from the inside, and I have done so in two cases in which the ulcer was located very close to the esophagus. It also is possible to inspect the pyloric section after the stomach is wide open. I hoped to learn from the discussion how frequently hemorrhage resulting from pressure of clamps had occurred, and I am surprised but glad to learn that it does not occur in the experience of anyone else. In the case described the vessel was open where it crossed the slit which had been made by the clamp; furthermore, there had been no hemorrhage either from the original ulcer or the site of operation. The anastomosis was made at the lowest point of the stomach and was more than 4 inches from the ulcer, thus avoiding the criticism of Dr. Oschner. The fact remains, however, that if anyone desires to investigate the result of clamps on the mucous membrane he will be surprised to note that it is broken or slit in a very large percentage of cases. It would be surprising if there have not been more serious hemorrhages resulting from clamp pressure than is indicated by the discussion to-day. I have done many hundreds of experimental anastomoses in addition to my clinical work. Most of my experimental anastomoses have been done by the various free-hand and traction-loop methods with a view to learning to sew skilfully, but, like Dr. Mayo, I have not heretofore done any clinical work without clamps. By the technic here described, however, I have been able to do even more satisfactory work in excisions of ulcers and in doing pylorectomy for carcinoma than I have been able to do with the clamps, leaving out the possible danger from clamp pressure. It is unquestionably cleaner, more thorough and more surgical. The gastro-enterostomy described is, as will be noted, a sequel or part of the gastrectomy and is used after the stomach has been emptied of its contents. The traction loops when tied unquestionably add material strength to the union. I am not prepared to advise the discarding of clamps in cases of simple gastro-enterostomy for simple unquestionable pyloric or duodenal obstructive ulcers when there is no call for exploration. This, however, is the only field, it seems to me, in which clamps can be used to advantage.

SMOOTH ATROPHY OF THE TONGUE *

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For many years the occurrence of smooth atrophy of the base of the tongue in cases of syphilis was handed down as a tradition in Virchow's laboratory in Berlin and from this source chiefly the first knowledge of the condition was disseminated.

Since the publication of Lewin and Heller,[1] however, in 1894, comparatively little has been written about smooth atrophy of the base of the tongue in reference to its diagnostic value in syphilis. In their series of 6,583 cases which came to autopsy in the Charité Hospital in Berlin, 200 presented a history of syphilis, 156 acquired and forty-four congenital. Of these, eighty-five cases of acquired syphilis showed no smooth atrophy. One hundred and three cases presented smooth atrophy of the base of the tongue and of these, seventy-one (69 per cent.) have a definite syphilitic history. Thus, in 45 per cent. of cases of acquired syphilis smooth atrophy was found to occur.

Symmers (1910),[2] in 623 cases, found seventy-five in which there had been a distinct history of syphilis, and in sixty-four (84 per cent.) of these, smooth atrophy of the base of the tongue was noted, fifty-five complete and nine partial. In three of his syphilitic cases the lymphoid follicles at the base of the tongue were hyperplastic.

In this institute, smooth atrophy of the base of the tongue has been looked for as a routine and its occurrence noted fairly frequently. In 1909, out of 505 autopsies, it was found in thirty-nine cases (twenty-five male and fourteen female). In all of these the condition was quite definite, all doubtful cases in which atrophy was only slight or moderate being excluded. In three, however, it was only partial, but in the affected portions was quite distinctive.

The accompanying tables indicate the class of case in which this condition of smooth atrophy was found, and its relationship to syphilis.

TABLE 1.—SMOOTH ATROPHY OF THE BASE OF THE TONGUE, BUT NO HISTORY OR SIGNS OF SYPHILIS AND WITH A GOOD FAMILY RECORD

Case.	Sex.	Age.	Cause of Death.
1	M.	66	Acute yellow atrophy of the liver.
2	M.	65	Cancer of rectum.
3	M.	29	Phthisis.
4	M.	60	Pneumonia, pericarditis, advanced general arteriosclerosis.
5	M.	51	Phthisis and acute suppurative peritonitis.
6	M.	74	Pneumonia.
7	M.	50	Cirrhosis of the liver with primary cancer.
8	M.	59	Cerebral softening and senile atrophy.
9	F.	62	Gangrene of lung following operation on hemorrhoids.
10	F.	28	Disseminated sclerosis.
11	F.	54	Senile atrophy general.
12	F.	65	Nephritis.
13	F.	40	Carcinoma of uterus.
14	F.	62	Pemphigus.

TABLE 2.—SMOOTH ATROPHY OF THE BASE OF THE TONGUE WITH NO SIGNS OF SYPHILIS. HISTORY OF SYPHILIS DENIED, BUT POSSIBLY MAY HAVE OCCURRED

Case.	Sex.	Age.	Cause of Death.
1	M.	47	Pneumococcal pericarditis (gonorrhea several times).
2	M.	55	Cirrhosis of the liver (chronic laryngitis, not tuberculous, possibly syphilitic).
3	F.	77	Cancer of the cecum (5 children, all died young; had 1 miscarriage).

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* From the Russell Sage Institute of Pathology.

[1] Lewin and Heller: Die glatte Atrophie der Zungenwurzel und ihr Verhältniss zur Syphilis, Virchow's Arch. f. path. Anat., 1894, cxxxviii, 1.

[2] Symmers: Smooth Atrophy of Base of the Tongue, Am. Jour. of Med. Sc., 1910, cxl, 859.

TABLE 3.—SMOOTH ATROPHY OF THE BASE OF THE TONGUE NO SIGNS OF SYPHILIS. HISTORY OF SYPHILIS NOT KNOWN

Case.	Sex.	Age.	Cause of Death.
1	M.	77	Senile atrophy and general arteriosclerosis.
2	M.	60	Senile atrophy and general arteriosclerosis with terminal acute cystitis.
3	M.	78	Nephritis.
4	M.	47	Appendicitis (also had mitral stenosis).
5	M.	63	Phthisis, intestinal tuberculosis (no laryngitis).
6	M.	64	Phthisis; intestinal tuberculosis, chronic tuberculous laryngitis; tabes mesenterica.
7	M.	80	Infarction of heart; general arteriosclerosis.
8	F.	65	Tuberculous peritonitis and acute miliary tuberculosis (few small ulcers in the upper part of esophagus, but no laryngitis).

TABLE 4.—SMOOTH ATROPHY OF THE BASE OF THE TONGUE WITH A DEFINITE HISTORY AND SIGNS OF SYPHILIS

Case.	Sex.	Age.	Pathology.
1	M.	36	Sacculated aneurysm, arch of the aorta (rupture into right pleura).
2	M.	40	Syphilitic ulcer of face (death from general septicemia).
3	M.	65	Syphilitic scarring of liver (death from empyema).
4	M.	60	Syphilitic scarring of liver and skin (death from nephritis).
5	M.	43	Tabes dorsalis.
6	M.	63	Tabes dorsalis.
7	M.	58	Tabes dorsalis; also syphilitic scarring of the liver.
8	M.	45	General paresis.
9	F.	27	Syphilitic ulcer of perineum, chronic syphilitic laryngitis and pharyngitis; also scars in liver (died of purulent cystitis and pyonephrosis).
10	F.	46	Old syphilitic skin lesions (nephritis case).
11	F.	53	Old syphilitic skin lesions (cerebral softening, nephritis case).
12	F.	36	Syphilitic scarring of the liver and skin (death from nephritis).
13	F.	54	Saber tibiæ and syphilitic scarring of the liver (gumma of brain).
14	F.	45	Syphilitic ulceration of the nasal cartilages, syphilitic laryngitis (death from liver cirrhosis).

TABLE 5.—CASES PRESENTING MANIFESTATIONS OF SYPHILIS, BUT NO SMOOTH ATROPHY OF THE BASE OF THE TONGUE

1. Old syphilitic skin lesions:

Case.	Sex.	Age.	Cause of Death.
1	M.	40	Acute endocarditis.
2	M.	59	Cerebral thrombosis and softening.
3	M.	49	Chronic cardiac dilatation and chronic arthritis.
4	M.	65	Pneumonia and pericarditis.
5	F.	53	Cerebral thrombosis and softening and nephritis.
6	F.	92	Pneumonia.

2. (a) Aneurysm of aorta—sacculated.

1	M.	53	Cardiac failure.
2	M.	59	Rupture into pericardium.
3	M.	45	Rupture into superior vena cava.
4	F.	57	Abdominal, dissecting, rupture into right pleura.

(b) Aneurysm of aortic arch fusiform. Three cases (no aortic incompetence): One denied syphilis but presented numerous syphilitic scars on the legs and abdomen. The other two admitted syphilis but showed no other signs than very extensive arteriosclerosis.

3. Tabes dorsalis and old syphilitic skin lesions:

1	M.	59	
2	M.	42	Tabes dorsalis.
3	F.	44	Tabes dorsalis; syphilitic scarring of the liver; syphilitic pulmonary fibrosis.

4. Syphilitic pulmonary fibrosis:

1	M.	77

5. Syphilitic scars in the liver (pneumonia case):

1	F.	56

6. Syphilitic scars in liver and skin, syphilitic laryngitis and ulceration of the pharynx with disappearance of the uvula (died of liver cirrhosis):

1	F.	47

7. Saber tibiæ—(old chronic cardiac dilatation case):

1	M.	60

8. Syphilitic aortitis, rupture of aortic cusps:

1	M.	37

Total.. 21

As a summary of these thirty-nine cases it may be seen that they occurred at all ages between 27 and 80. Age alone does not produce this condition, as subjects of 90 years or over do not show it. In fourteen there was typical smooth atrophy with a negative history and no signs of syphilis. In fourteen it existed in cases presenting definite evidences of syphilis. In twenty-one syphilitic cases, however, there was no apparent abnormality of the base of the tongue. These numbers are of course too small to form any statistics, yet they correspond practically to the experience of past years in this laboratory.

In cases of active syphilis there seems commonly to be a hyperplasia of the lymphoid tissue at the base of the tongue, as in the following three cases:

CASE 1.—Male, aged 42; syphilis at age of 25; syphilitic ulcers of the skin and scars in the liver, and syphilitic ulcer of the aortic arch which had eroded into the trachea and through which a fatal hemorrhage had occurred. The heart weighed 300 gm.; spleen 150 gm.; no chronic nephritis; slight general lymphatic glandular enlargement had occurred. The lymphoid tissue at the base of the tongue was considerably hyperplastic.

CASE 2.—Male, aged 27; syphilis eighteen months previous to date of death. Patient died very suddenly, apparently from asphyxia; larynx almost completely stenosed by syphilitic granulations; epiglottis and uvula destroyed by ulceration; extensive chronic skin lesions of syphilis and several gummata in the liver; syphilitic aortitis; heart weighed 250 gm.; spleen 215 gm.; no chronic nephritis. There was slight general lymphatic gland enlargement and considerable hyperplasia of the lymphoid tissue at the base of the tongue.

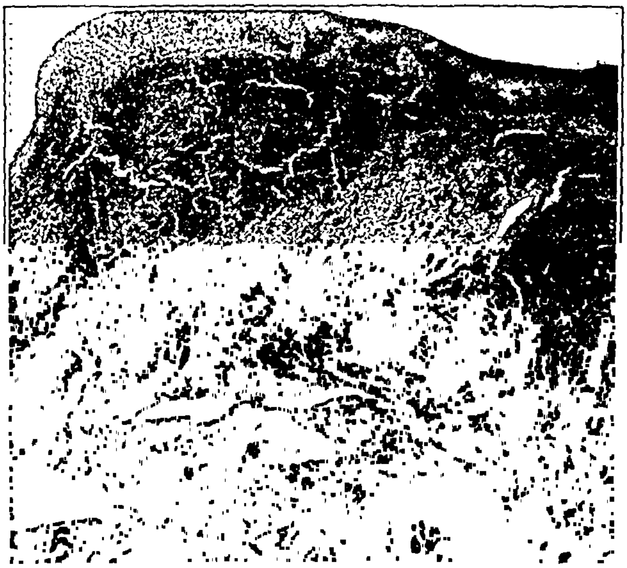
Fig. 1.—Section of the base of the tongue, showing extensive lymphoid hyperplasia of the lymph structures under the epithelium.

CASE 3.—Male, aged 39; syphilis twelve months previous to date of death. Patient died of chronic cardiac dilatation. He had also for several months previous to death a swinging temperature. There were some syphilitic scars on the legs and a persistent sore on the side of the tongue. His blood gave a positive Wassermann reaction before antisyphilitic treatment was commenced. His kidneys showed a marked chronic nephritis and the heart was enormously hypertrophied and dilated (770 gm.). The spleen was somewhat enlarged (525 gm.) and the lymphatic glands all through the body were very considerably swollen. The histologic picture of the blood showed no important change. The lymphoid tissue at the base of the tongue was very markedly hyperplastic, both grossly and microscopically.

In only one of the thirty-nine cases did the appearance warrant an absolutely certain diagnosis of syphilis. In this there was a specially indurative cicatricial character to the lesion and it was associated with a syphilitic laryngitis. All the other cases simply presented a smooth atrophic appearance of the surface structures of the tongue with disappearance of the papillæ. On microscopic examination the condition seemed to be an atrophy of the lymphoid and other subepithelial elements, so that a thin layer of squamous epithelium extended over an underlying fibrovascular structure, which, unlike the normal surface structures of the base of the tongue, contained no glands or lymphoid follicles.

There seemed to be no cicatrizing process and the subjacent muscle structures were undisturbed. In none was there any perivascular lymphocytosis, endarteritis, or other suggestively syphilitic process to be observed. In the relatively early stages of tertiary syphilis, as already noted, it is common to find a marked general glandular enlargement with also a hyperplastic condition of the lymphoid elements at the base of the tongue. Is this, then, a stage in the process whose final condition is smooth atrophy? No definite transition types were observed, but very probably it may be so, just as the lymph-follicles in the intestine may atrophy after typhoid fever.

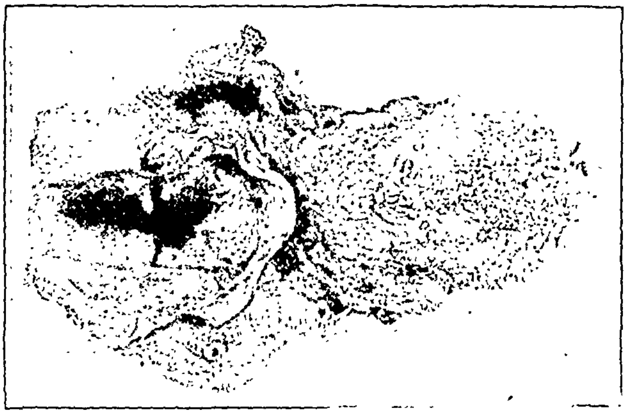
Fig. 2.—Smooth atrophy of the base of the tongue.

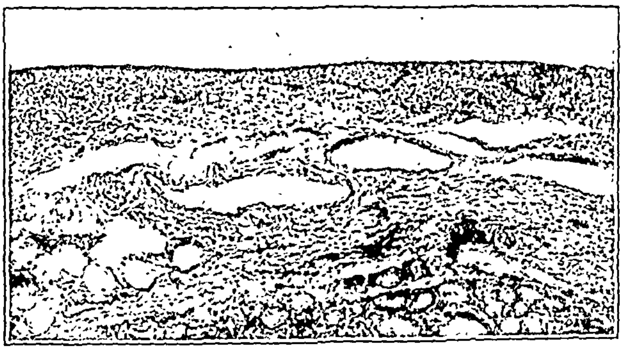
Fig. 3.—Section of the base of the tongue showing atrophy. The lymphoid tissue has entirely disappeared. (This section was taken from a position similar to Figure 1.)

In conclusion, then, these cases would seem to show that smooth atrophy of the base of the tongue may occur occasionally in other conditions besides syphilis, as, for instance, in certain tuberculous cases and in association with general wasting states. In tuberculosis, for instance, out of twenty-five cases of smooth atrophy of the base of the tongue in which syphilis could not be definitely determined, seven were tuberculous. Only these seven, however, out of 196 tuberculous cases in the same series of 505 autopsies showed the condition.

Of all the disease processes which lead up to the production of smooth atrophy of the base of the tongue syphilis is much the most frequent. In such proportions as in the present series, in which it existed in fourteen out of thirty-six syphilitic cases, the association is significant and at least a guide in clinical diagnosis.

Sixty-Sixth Street and East River.

A CASE OF BRAIN TUMOR

O. T. MANLEY, M.D.
CLEVELAND, OHIO

Patient.—The patient, Leonard H., aged 19, was referred by Dr. R. M. Manley, who made the ocular examination given later in this paper.

History.—The family history was negative. As a nursing baby, he had two convulsions, finished sixth grade in school with good grades, passing regularly. When 14, he was pushed from a moving street car, striking on head, was unconscious 30 minutes; vomited and developed conjunctivitis of right eye, which subsided in two weeks. His health was good for one year, at the end of which time convulsions occurred, and recurred for three years at intervals of from two to four months. During the year following the last convulsion, which occurred April, 1910, his headaches had gradually increased in severity, were almost continuous, and were accompanied by impairment of vision when I first saw him, April 1, 1911. Syphilis was denied. Potassium iodid had been administered but was not tolerated.

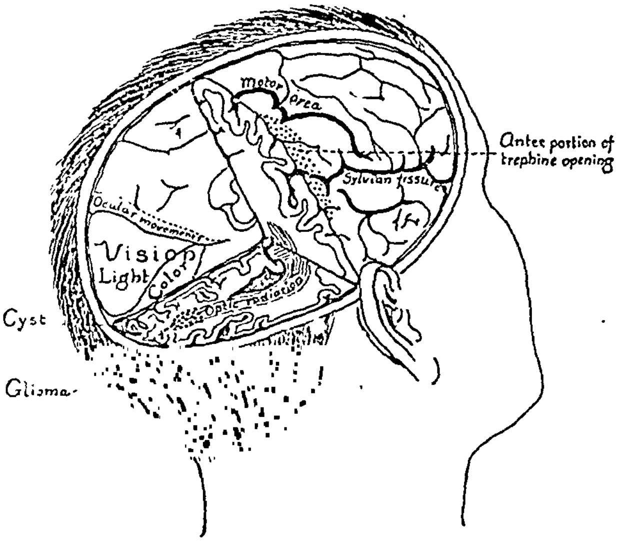

Fig. 1.—Perpendicular and horizontal dissection of right cerebral hemisphere, also showing mesal surface of posterior portion of left hemisphere.

Symptoms.—Headaches, tender area about 3 cm. diameter, on right side of scalp, 5 cm. perpendicular from the median line toward external auditory meatus, and a less tender area 4 cm. posterior to a corresponding point on the opposite side, muscular power of left hand diminished. Homonymous hemianopia (right halves of both retinæ blind). Unilateral hemichromatopsia (temporal half of left retina color blind) with variable vision for color and natural objects, and diminished acuity for light. Left pupil slightly larger than right. Pupillary reaction to light diminished on blind side with left pupil less active than right. He carried his head rotated to the left or his eyes to the left. Double choked disks and hemorrhagic retinitis. R. B. C. 4,900,000, W. B. C. 18,000, hemaglobin 90 per cent. Pulse 104, temperature and respiration normal. Motor, sensory, deep reflexes, coordination and urinary examination and other physical examination negative.

Diagnosis.—1. Increased intracranial pressure. 2. Central lesion, involving right optic radiation or visual center, probably extending toward thalmus, and possibly originating in parietal lobe toward the tender area on the right side.

Prognosis.—Unless the course was interrupted, prognosis was continuous and increasing headaches with total loss of vision and mental activity resulting in death.

Operation.—To relieve the pressure by a decompression trephining or to discover that its cause might permit of a successful removal, I opened the cranial cavity by a two stage osteoplastic flap operation, including the tender area on the right side in the upper anterior angle. At St. Alexis Hospital, April 3, I resected the bone and replaced the flap; April 10 I turned back the flap and opened the dura which was bulging, with no pulsation. The brain presented through the incision and required pressure to prevent its escape, as the dural opening was enlarged. There were irregular areas of dusky red and darker areas apparently degenerative covering the lower two-thirds of the exposed surface and infiltrating into the normal brain tissue toward the median line. The bone was removed and the opening in the skull enlarged downward and backward to allow protrusion of the brain without injury, and closure of the skin flap with less pressure. A needle was carefully introduced toward the posterior horn of the lateral ventricle to a depth of 3.5 cm. but no fluid was found. A section was removed for microscopic examination and scalp incision closed. Dr. Schumacher reported this section to consist of normal brain tissue with areas of pressure necrosis.

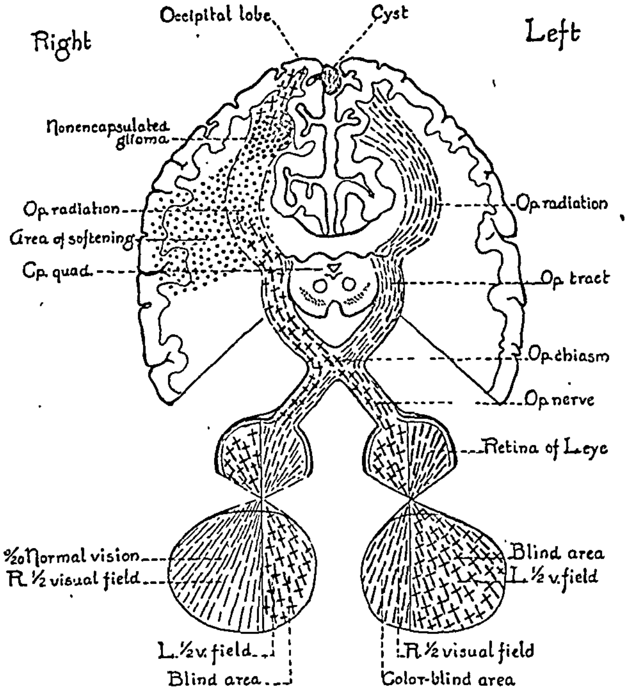

Fig. 2.—Horizontal cross-section of cerebral hemispheres.

Postoperative Condition.—First twenty-four hours: General condition good, conscious in thirty minutes, no shock, paralysis, headache or vomiting.

Second day: Partial paralysis of left hand and wrist, nystagmus (eyes rotate to left slowly and jerk to right). Pupillary reaction to light improved in both eyes.

Third day: Vision in the right half visual fields improved. General condition improved, excepting paralysis of left hand, which was more pronounced. No nystagmus.

Fourth day: General condition improved, walked to chair with assistance, slight discharge of cerebrospinal fluid.

Fifth day: Free discharge of cerebrospinal fluid.

Sixth day: Removed from hospital to home; condition good; no vomiting or headaches.

Second and third weeks: Free discharge of fluid but gradual enlargement of cerebral hernia, with progressive paralysis of left leg. No change of vision; was in chair; appetite good; temperature had been practically normal, pulse ranging from 72 to 90 and respiration 18 to 20, since the operation and continued so until the evening of the 17th day, or April 26, when vomiting occurred and pulse became rapid (120). Both subsided the next day but recurred April 29, after which time the discharging fluid was bloody. Death occurred May 2 in coma.

Ocular Examinations by Dr. R. M. Manley.—March 16, 1911, complains of poor vision, diplopia, and pain in the head. Lids and conjunctivæ normal; tension normal; no pain. Right pupil reacts to light and accommodation; left reacts feebly if at all. Left pupil contracts when cone to light is thrown into right eye; media clear; optic neuritis both sides with hemorrhages into retinæ; veins dark and enlarged both sides; right eye vision equals three-sixths, left eye vision equals two-sixths; esophoria varying from 12 degrees to 20 degrees.

March 30, 1911, homonymous hemianopia; right eye vision equals two-sixths, left eye vision equals one-sixth; both optic neuritis and hemorrhage increasing; urinary examination negative.

April 24, 1911, postoperative examination shows optic neuritis diminished; hemianopia remaining; right retina pale, veins small, very little hemorrhage remaining; left retina veins dark and larger than right, some hemorrhage; right, vision much improved; left, vision very much improved.

Fig. 3

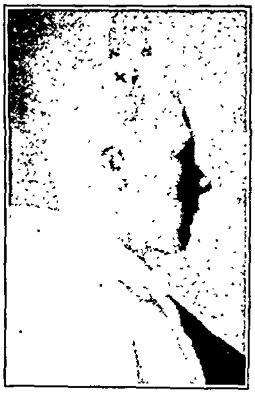

Fig. 4

Fig. 3.—Patient with brain tumor from photograph taken April 21, 1911.

Fig. 4.—Photograph in which x indicates tender area. Taken April 21, 1911, before operation.

Autopsy.—Autopsy was permitted only through the trephine opening which was 6½ by 8 cm. All the parietal portion beneath and posterior to the opening was softened and degenerated to a pulpy consistency, and offered little resistance to pressure. This was carefully removed and consisted of particles of apparently degenerated brain tissue mixed with bloody débris. A firm substance about the size of a goose egg was palpated in the posterior portion of the right side of the cranial cavity which was partly adherent to the falx cerebri; on removal, this proved to be the right occipital lobe with a cyst attached to the posterior portion of the calcarine fissure. The center and the anterior portion consisted of a non-encapsulated cheesy-looking substance which filled the space belonging to the optic radiation fibers; this was quite firm and in it could be detected small hard particles feeling like small spicules or minute calcified areas. On microscopic examination, this mass proved to be a glioma.

Pathologic Examination by Dr. Josephine Danforth.—Diagnosis: Infiltrating glioma of brain with calcareous deposits and cystic and degenerative changes.

Macroscopic: Specimen received for examination consists of:

1. A portion of the occipital lobe of the cerebrum which contains on its dissected surface an infiltrating growth about the size of a walnut with a cyst of the arachnoid on the external surface which corresponds to the mesal surface of the occipital lobe. This growth is soft in consistency, central portion disintegrating, greyish in color, and contains a few small spicules of bony substance.

2. A considerable amount of soft degenerated tissues.

3. Two small pieces of brain tissue removed with the degenerated tissue.

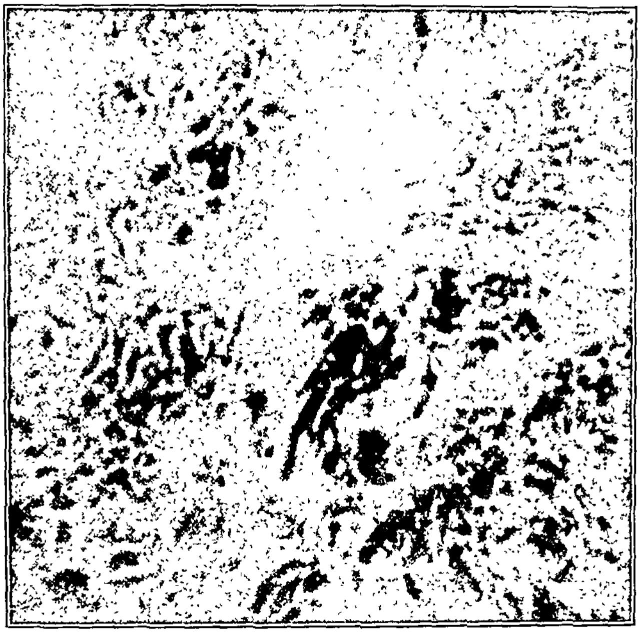

Fig. 5.—Glia cells.

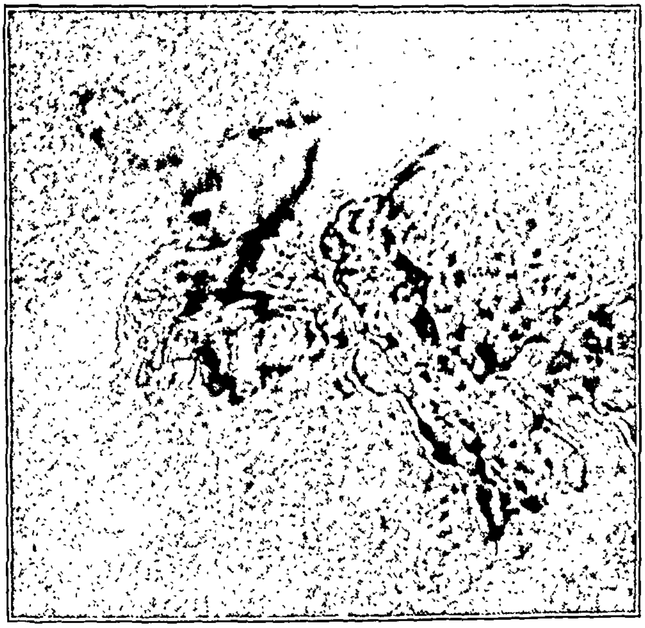

Fig. 6.—Calcareous concretions.

Microscopic: 1. (*a*) Tumor: Slides show masses of small cells having a distinct round or oval nucleus which fills most of the cell body. Many of these cells show distinct processes *drawn out in fibrils* which, interlacing, form a felt-like stroma. These are the glia cells (Fig. 5). Other portions of the slides show:

I. Areas of marked degeneration of all cellular structures, infiltrated with polynuclear leukocytes.

II. Areas composed of capillary blood-vessels filled with red blood-cells and leukocytes and having extremely thin walls.

III. Areas containing small blood-vessels, with considerably thickened walls.

IV. Portions of the tissue containing whorls and plates of calcareous concretions (Fig. 6).

(*b*) Cyst: Contents of cyst 2 c.c. of serous fluid tinged with blood, containing a few polynuclear leukocytes, a number of mononuclear cells and cocci in pairs. No tubercle bacilli were found.

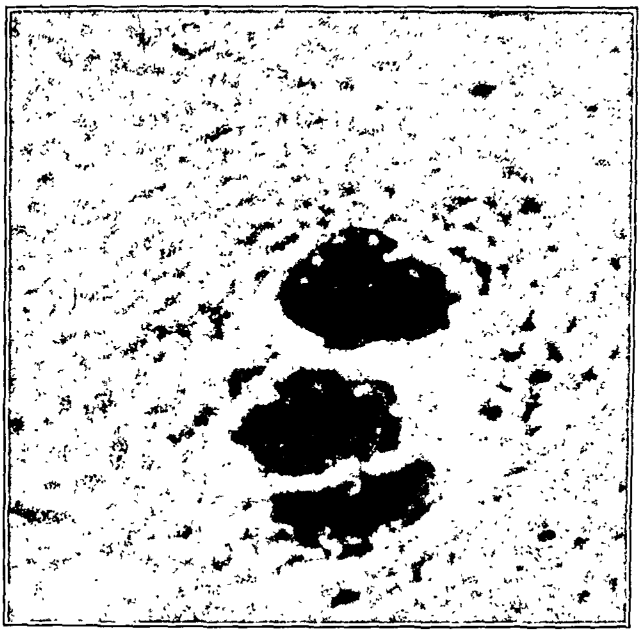

Fig. 7.—Calcareous deposits.

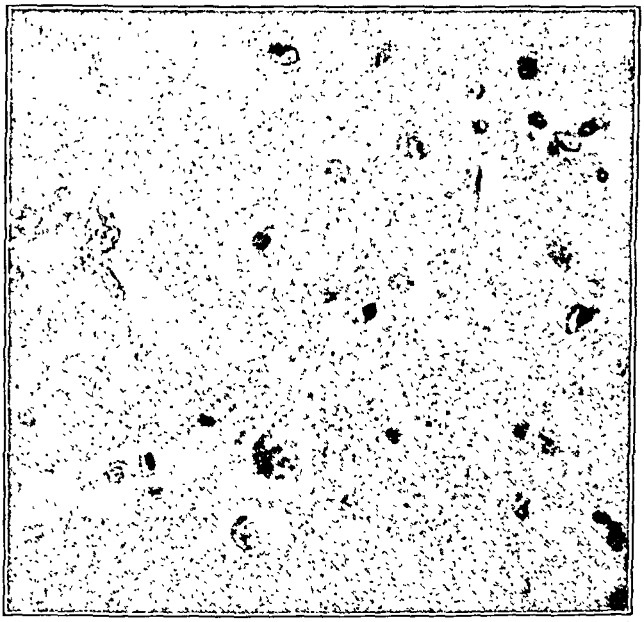

Fig. 8.—Normal brain tissue.

2. Degenerated material: (*a*) Smears show many polynuclear leukocytes, many large and small mononuclear cells, large cells having large round or oval nuclei and distinct protoplasmic processes, i. e., nerve cells, and many cocci in pairs and in short chains. No tubercle bacilli were found.

(*b*) Slides show cellular destruction, infiltration with polynuclear leukocytes and red blood-cells, deposits of calcareous material (Fig. 7).

3. Loosened brain tissue: Slides show nervė cells and neuroglia of the cerebrum (Fig. 8).

Summary.—1. The glioma involving the optic radiation on the right side explains the homonymous hemianopsia.

2. The extensive softening and gliomatous infiltration in the region of the right thalamus explain diminished pupillary reflexes on the blind side, inequality and varied reactions of pupils.

3. The cyst was in a position to make direct pressure on the color center of the left occipital lobe and, since the symptoms developed in the order in which color, natural objects, and light centers are arranged, this pressure (since it affected the visual centers of the temporal half of the left retina more than those of the nasal half of the right retina) could explain the unilateral hemichromatopia, providing the falx cerebri would allow transmission of such pressure.

4. The increased intracranial pressure explains the choked disks, hemorrhagic retinitis and headaches.

5. The calcareous deposits suggest slow development.

6. The postoperative paralysis of the left side was caused by pressure of motor area on edge of trephine opening.

7. Post-mortem changes, or contamination at time of autopsy, could explain the presence of micro-organisms in pathologic specimens, since there had been no indication of infection.

8. Death was undoubtedly due to the extension of degenerative changes to the larger blood-vessels in the brain.

ENDEMIC MALTA (MEDITERRANEAN) FEVER IN TEXAS

FURTHER NOTES ON ITS DISTRIBUTION AND PROBABLE SOURCE WITH REPORT OF ADDITIONAL CASES

THIRD PAPER

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AND
THOMAS L. FERENBAUGH, A.B., M.D.
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[WASHINGTON, D. C.]

At the time of our previous communication[1] on Malta (Mediterranean) fever in Texas, in which we reported the isolation of the *Micrococcus melitensis* from two patients ill of continued fever, it was known to us that other cases existed in the vicinity of Langtry, Texas, and it seemed highly probable that the disease had a much wider distribution.

The recent work of the British Mediterranean Fever Commission[2] has conclusively shown that in the Island of Malta Mediterranean fever is almost entirelly contracted through drinking the milk of infected goats. All the cases observed by us had given a history of drinking goat's milk or of being actively engaged in the goat-raising industry. In view of these facts, it was decided to make some study of continued fevers in the principal goat-raising sections of the state, to ascertain, if possible, whether some of the cases diagnosed as atypical typhoid fever might not be cases of infection with the *Micrococcus melitensis.*

From Langtry, where the field laboratory was located, visits were made east and west, through the principal goat-raising sections of the state, embracing an area approximately 300 miles along the Rio Grande and extending 90 miles to the north, including the Nueces and lower Pecos River countries. This section of the border is covered with ranges of low undulating hills, traversed by many rocky cañons, arid and barren for the most part and covered with a desert vegetation. For the past thirty-five years the raising of goats has been the most important, and indeed, in some places, the only industry of the inhabitants.

Careful inquiries through this section elicited the information that for many years there has existed, principally in the Nueces and lower Pecos River countries, a continued fever characterized by frequent relapses, pains in the joints and a very low mortality. This fever has been known to exist in Edwards county, at the head of the Nueces River, for a period of at least twenty-five years. It has been known there as slow fever, continued fever and, occasionally, by the significant term of goat fever.

During the summer of 1894 there occurred in the practice or under the observation of Dr. Robertson of Rock Springs about twenty-five cases of continued fever in the Nueces River cañon. The disease ran through whole families and occurred almost entirely in families that had goat pens immediately surrounding the houses. In many of the cases the fever ran for several months, with frequent relapses. Joint symptoms occurred in many instances and often the patients were not able to walk for several weeks. Dr. Robertson was unable definitely to determine the nature of the fever, but believed that he was dealing with a fever different in many respects from typhoid. Since that time he has each year treated a few patients with an affection which he recognized as a fever of similar type.

More recently Drs. Eads and Rogers of Barksdale have treated patients each year with cases of continued fever, in which the symptoms did not correspond clinically to those of typhoid fever. This report includes two cases which occurred in their practice during the present summer.

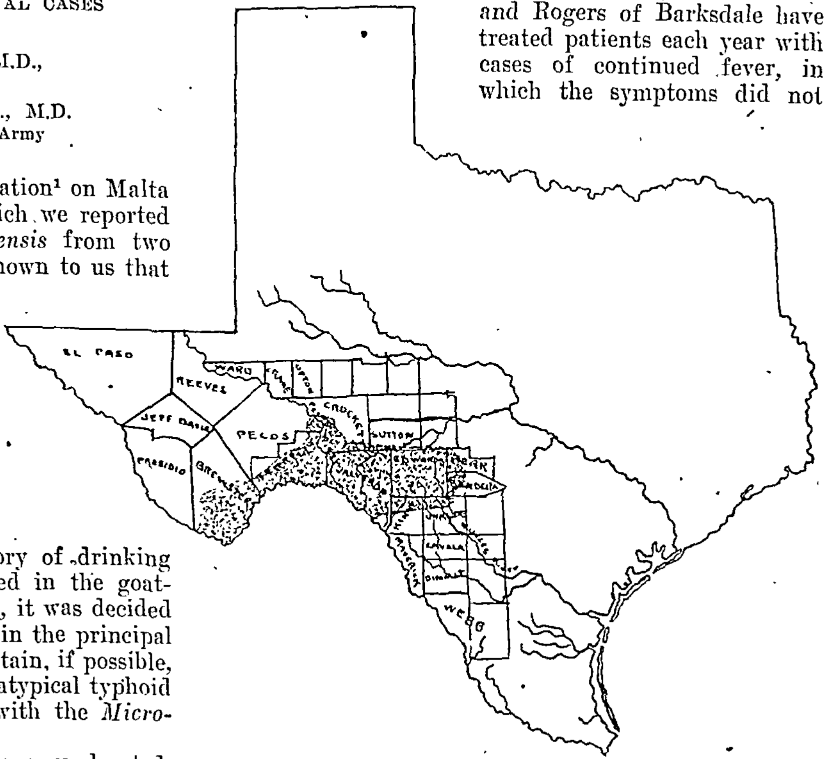

Fig. 1.—Shaded portion of map outlines the principal goat-raising section of Texas, and also represents the area of endemic Malta (Mediterranean) fever.

Many people have believed that the disease was in some manner contracted from goats and occasionally have applied to it the term "goat fever." It has also been called "dust fever," on the theory that it came from working in dusty goat pens. Since the disease is more prevalent during the months of May, June and July, when the prevailing wind is from the south, some of the goat-herders have located their goat pens on the north side of their houses to avoid the dust. The Mexican goat-herders have long believed that slow fever was due to drinking unboiled goat's milk and for this reason, and also because it improves the taste, practically all Mexicans drink only milk which has been boiled.

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[1] THE JOURNAL A. M. A., Sept. 9, 1911, p. 889.

[2] Reports of British Mediterranean Fever Commission, 1905-7.

It is thought that the disease appeared in the Pecos River country about ten years ago, and it has been known there as slow fever or Rio Grande fever. Owing to the fact that the country is very sparsely settled in that locality the disease has failed to attract much attention, but it is certain that a few cases have occurred there each year for several years past.

The following cases of infection with the *Micrococcus melitensis* were found at Langtry, Barksdale and Rock Springs:

Blood-examination, July 25:

White blood-cells, 6,400.

Hemoglobin, 75 per cent.

Differential count, per cent. (500 cells):

Polymorphonuclear neutrophils	45.
Small mononuclears	47.6
Large mononuclears	4.4
Transitionals	2.2
Eosinophils	.8
Mastzellen	.0
Nucleated reds	.0
Parasites	.0

Centrifugalized specimens of urine were plated out several times on glucose-nutrose-litmus-agar, but no colonies of *M. melitensis* were found.

Case 3 (Also previously reported[3]).—The patient, K. E., has had no subsequent relapse and is feeling well.

Case 4.—On July 20 a second agglutination test on Patient 4, R. E.,[3] with *M. melitensis* gave positive agglutination at dilution of 1/160 in thirty minutes. Normal control 1/40, and *B. typhosus* 1/40, negative in one hour.

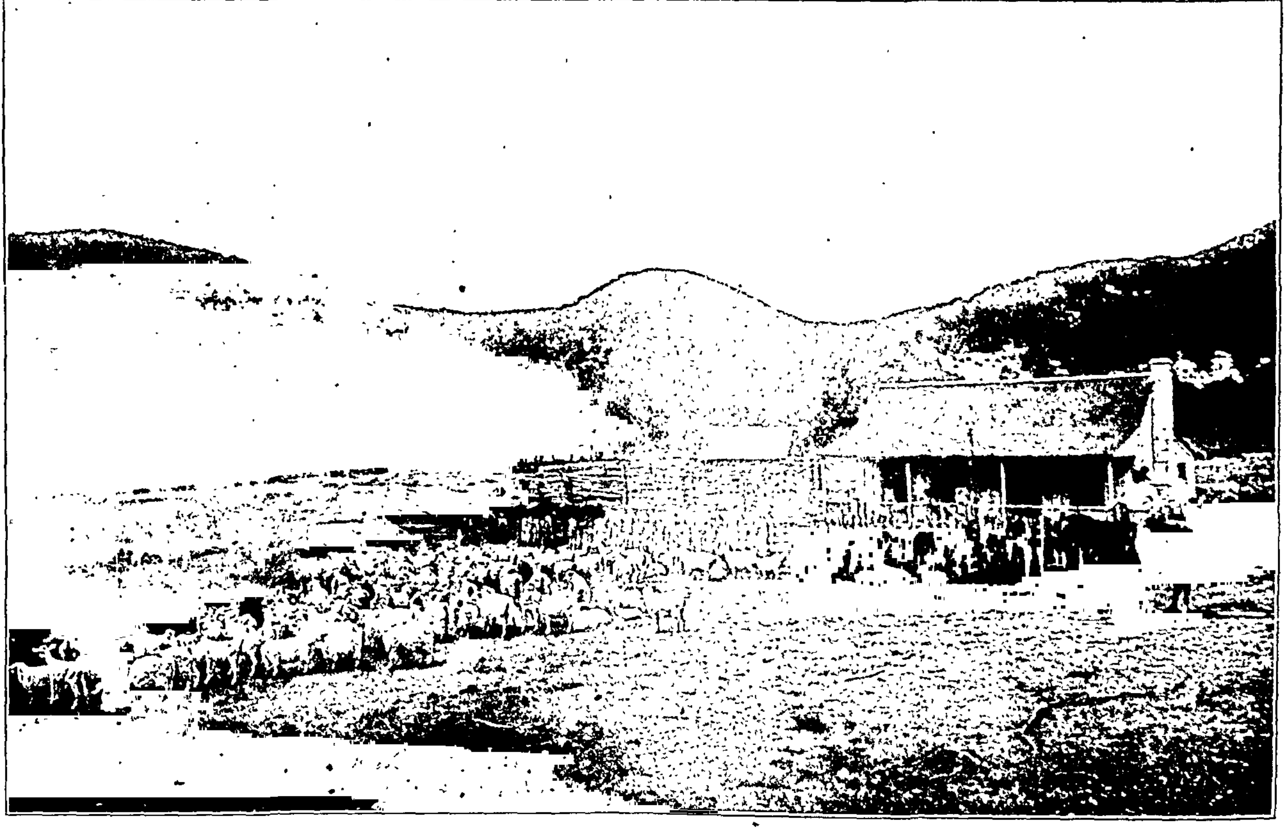

Fig. 2.—Typical goat ranch on a tributary of the Nueces river, near Barksdale, Texas, showing dusty bedding-ground of goats in front of the ranch house.

Case 2 (Already reported[3]).—The patient, L. E., returned to Langtry July 10. When seen at the army laboratory July 14 he was very pale, but not emaciated; temperature normal.

The blood-serum July 19 gave a positive test of *Micrococcus melitensis* in dilution of 1/100 in fifteen minutes.

July 21 the patient relapsed for the fourth time with a temperature of 103 F. He complained of pain in left shoulder, headache, earache, loss of appetite, obstinate constipation and abdominal distention. The fever gradually decreased and the temperature became normal again July 26. No relapse since and patient appears well.

Case 7.—J. E., Langtry, Texas, aged 55, goat ranchman, father of Patients 1, 2 and 3, 4 and 5 had "typhoid-pneumonia" at 5 years of age, and malaria at 21. He became ill June 20, 1911, with headache, pains in bones, epigastric tenderness, pains in neck and back; some cough and slight amount of thick, glairy sputum; temperature ranged from 98.6 to 99 F. in the morning to 101 to 102 F. in the evening for about two weeks; returned to normal July 5; severe pains in right shoulder during second week of disease; bowels constipated; appetite good.

The patient had no relapses and did not go to bed during the course of the fever.

July 19 agglutination test was positive with *M. melitensis* at dilution of 1/50 in thirty minutes.

Case 8.—The patient, J. I., Langtry, Texas, aged 21, was a goat-herder. Father and brother suffered with similar symptoms at about the same time. They had fever for several months with frequent relapses and joint pains. Patient became ill in April, 1909, with headache, chilly sensation, and pains in back of the neck; went to bed after fifteen days of fever. Temperature ranged from 101 to 103 F., with evening rise and morning remissions, and with profuse sweating at night. Patient had five relapses with an interval of three or four days of normal temperature between them. Fever lasted about two months. In each attack when the temperature began to fall, patient suffered severely with pains in back, hips and shoulders. There was obstinate constipation.

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[3] The Journal A. M. A., Aug. 26, 1911, p. 730. Cases 1 to 5 were reported in this first paper and the detailed histories will not be repeated. Case 6 was reported in The Journal Sept. 9, 1911, p. 889.

Agglutination test July 19, 1911, two years after attack, gave positive test of *M. melitensis* at dilution of 1-40 in one hour. Controls negative.

Case 9.—E. B., Langtry, Texas, aged 22, goat-herder, whose brother and father suffered with similar disease during same year, became ill about June 1, 1907, with fever, headache, pains in back of neck and sides. Fever ran an irregular course lasting about two months. At times patient had no fever and would get up and around for several days; suffered with severe pains in shoulders, knees and hips; no pain in wrists and ankles; profuse sweating at night and obstinate constipation.

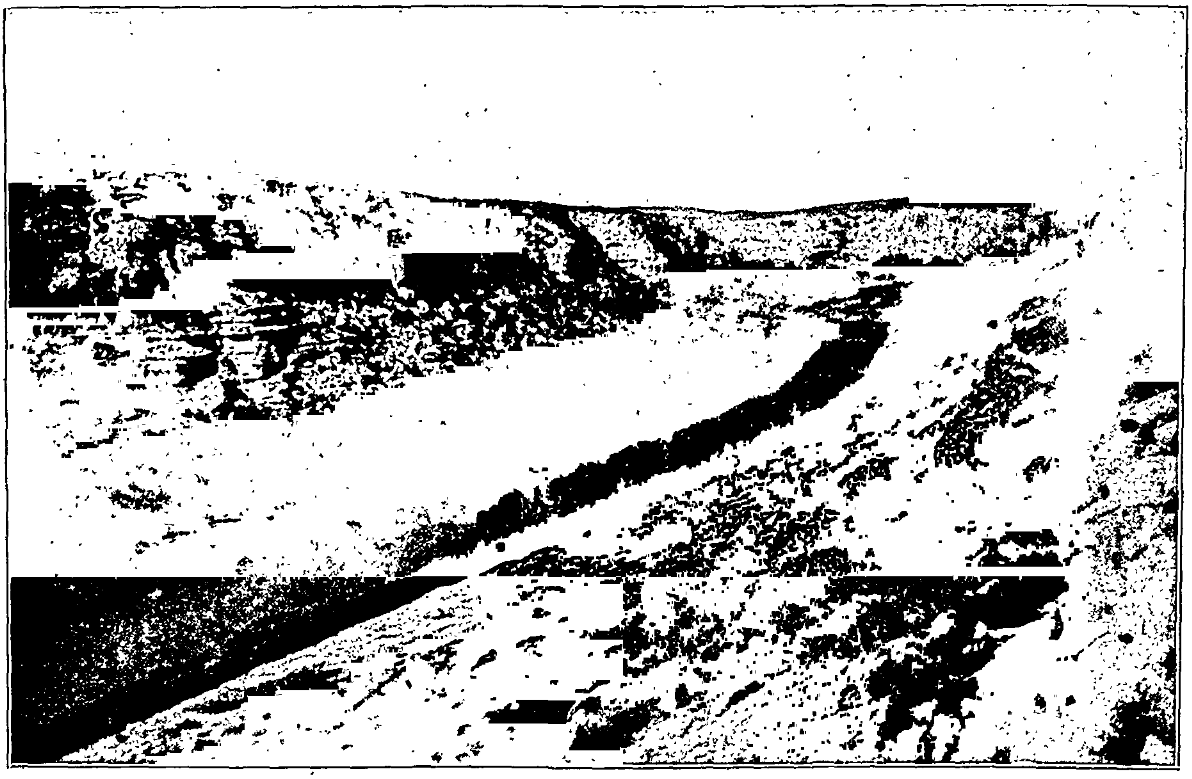

Fig. 3.—The Pecos River Cañon, near Langtry. A typical view in the goat-raising country of Texas. For miles on either side of this river the country is rocky, arid and barren, and covered with a desert vegetation.

Agglutination test on July 18, 1911, still gave positive test with *Micrococcus melitensis* at dilution of 1/30 in thirty minutes. Controls negative in one hour.

Case 10.—The patient, C. G., Rock Springs, Texas, aged 10, was the son of druggist. Adenoids and tonsils were removed at 7 years of age; patient had typhoid fever in 1910; was sick in bed thirty days. Present illness began May 1, 1911, with headache, general aches and pains all over body; profuse perspiration and obstinate constipation with some abdominal distention. Fever began gradually with evening rise and morning remission ranging from 99 to 102 F. Fever ran until May 10. The patient got up May 15, and returned to school a few days later. Relapsed May 30, with mild continuous fever with evening rise and morning remission, often not higher than 99.6 F. in the evening. Temperature became normal five or six times. During the second attack the patient had severe pains in knee, hip and ankle; some pain in left side during last attack; has had no elevation of temperature since July 5. At present looks somewhat anemic, but feels well. Patient has never drunk any goat's milk, but has often played in dusty goat pens.

Agglutination test, positive, with *Micrococcus melitensis* on August 1, at dilution of 1/160 in thirty minutes. Controls negative.

Case 11.—I. W., Barksdale, Texas, aged 6, had had no disease previously except measles at one year of age. He became ill May 12, 1911, with headache, malaise, stiff neck, evening rise of temperature and some sweating; appetite good; bowels constipated and some abdominal distention. On June 15, the fever rose to 104 F. and remained at 102 to 104 F. for about one week, then declined somewhat and afterward run an irregular course, at times going as high as 102 F. There were general aches and pains all over the body and in the shoulders, hips and knees; some pain in side at times; fever still present. At time of examination (August 2) it was 100 F.; spleen and liver enlarged. Physical examination otherwise negative. The patient was well nourished and not markedly anemic; had never drunk goat's milk, but had played constantly in dusty goat-pens. There is a goat-bedding ground just in front of the house.

Agglutination test with *M. melitensis* strongly positive at dilution of 1-150 in thirty minutes. Controls negative.

Case 12.—B. R. P., aged 32, Barksdale, Texas, goat ranchman, had influenza and bronchopneumonia three years ago; made a good recovery; taken sick May 1, 1911, with malaise, fever, headache and pain in back of neck; felt well in the morning, but very feverish toward evening, when the temperature would rise to 102 to 103 F.; had harsh constant cough and distinct dulness over bases of both lungs; lungs seemed filled up with mucus, and he spat up thick, glairy sputum, which was never blood-tinged. The cough lasted about fifteen days; spleen occasionally palpable; fever lasted until May 15, but returned May 25 and lasted until June 21. The temperature ranged from 100 to 103 F.; bowels were tympanitic and there was some diarrhea. The temperature fell to no[illegible]r about five days, but the fever returned again June 27 a[illegible]asted until July 6, ranging from 100 to 102 F. There was normal temperature again for four days. The fever returned July 10 and ran an irregular course since to the time of this report, ranging from normal in the morning to 100 F. in the afternoon. Bowels became very constipated and when moved with castor oil there were occasionally small sloughs of mucous membrane and a few flecks of blood. There was some epigastric tenderness. The spleen and liver were slightly enlarged and tender, and at times the patient complained of pains in the left side of the chest, which were relieved by a mustard plaster; had pain in the right shoulder, hip and elbow, and constant occipital headache. The patient worked constantly with goats and the goats were bedded all around the house.

Agglutination test August 3, 1911, was strongly positive with *Micrococcus melitensis* at dilution of 1/160 in thirty minutes.

Controls were negative.

On September 2 patient still had some fever and had been suffering severely with pains in shoulders, hips and knees.

BACTERIOLOGIC INVESTIGATION ON GOAT HERD WHICH WAS THE PROBABLE SOURCE OF INFECTION AT LANGTRY

In order that the source of infection might be definitely ascertained, if possible, in the cases of Malta fever occurring at Langtry, it was necessary to make a careful examination of the goat herd from which the milk used by Patients 1 to 4 had been obtained. Unfortunately, circumstances prevented this being done in a thorough manner, owing to the fact that at the time of our arrival at Langtry the goat herd was being transported, one-third to New Mexico and the remainder to an inaccessible range thirty miles distant. The herd consisted of about 1,500 goats (divided approximately as follows:

Pure Maltese	100
Spanish and mixed	400
Angora	1,000

Twenty-three female goats were examined with the following results:

Goat.	Serum Dilution.	Result.	Time, Minutes.
1. Maltese	1-20	—	50
2. Maltese	1-20	+	30
	1-40	—	50
3. Spanish	1-20	—	50
4. Angora	1-20	+	30
	1-40	—	50
5. Angora	1-20	+	25
	1-40	+	30
	1-80	—	50
6. Maltese	1-20	—	60
7. Maltese	1-20	+	20
	1-40	—	60
8. Angora	1-20	—	60
9. Angora	1-20	—	60
10. Angora	1-20	—	60
11. Spanish	1-20	—	60
12. Maltese	1-20	+	20
	1-40	—	60
13. Maltese	1-20	+	20
	1-40	—	60
14. Maltese	1-20	—	60
15. Maltese	1-20	—	60
16. Maltese	1-20	—	60
17. Angora	1-20	—	60
18. Maltese	1-20	—	60
19. Angora	1-20	—	60
20. Angora	1-20	—	60
21. Maltese	1-20	—	60
22. Maltese	1-20	+	30
	1-40	—	60
23. Angora	1-20	+	30
	1-30	+	45
	1-40	—	60

Thus eight out of the twenty-three goats (34.7 per cent.) agglutinated the *M. melitensis* completely at a dilution of 1/20, two of the eight going also to 1/30 and one at 1/40 in one hour. The milk of those giving a positive reaction at a dilution of 1/20 was centrifugalized and the sediment plated out on glucose-nutrose-litmus-agar and incubated for four days at 37 C. All plates proved negative for *M. melitensis.*

The Zammit milk agglutination test [4] on the milk of all twenty-three goats was negative in every case.

CONCLUSIONS

1. Malta fever is endemic throughout the older goat-raising sections of Texas.

2. Although typhoid fever is prevalent throughout these sections, we believe that careful serum tests will show that a large proportion of the cases diagnosed as atypical typhoid fever will be found to be suffering from infection with the *M. melitensis.*

3. All cases of Malta fever found have occurred in territory devoted to goat-raising and all patients either gave a history of drinking unboiled goat's milk, or were actively connected with the goat-raising industry.

4. While we have not yet found the *M. melitensis* in the milk of goats, the positive serum test obtained in 34 per cent. of goats examined points strongly to this animal as the source of infection.

A CASE OF SPOROTRICHOSIS

RALPH C. HENDERSON, M.D.
ERIE, KAN.

Patient.—W. H., a farmer, aged 19, weight 185, height 6 feet 1 inch. Father, aged 56, mother 51, two sisters, 26 and 15 respectively, and one brother 12, living and all in good health. One sister, married, died at the age of 25, cause unknown. Patient never had any previous illness.

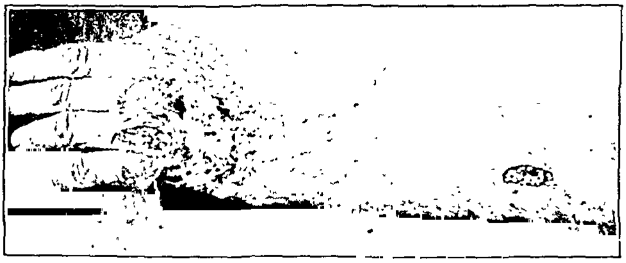

Fig. 1.—Initial lesion on hand and the course upward along the back of forearm.

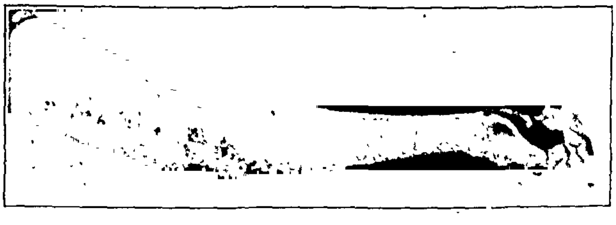

Fig. 2.—The course of infection as it passes toward the ulnar side and around the elbow to the inner and under surface of the arm and up to the axilla.

History.—In the early part of March, this year, patient noticed a small pimple on dorsum of left hand between fourth and fifth metacarpals, 1 inch above metacarpophalangeal joint. This continued to increase in size and was opened with a pin and poulticed.

Course.—March 28, the patient came to my office. The lesion appeared as a ragged, depressed ulcer 1½ inches in length by 1 inch in breadth. Extending upward from this, along the back of the forearm toward the ulnar side, and passing around the elbow to the inner and under surface of the arm and thence up to the axilla, the lymphatic vessels were purple and distended, and eighteen or twenty nodules were present along their course, as shown in the accompanying photographs. The vessels were filled with a dark serous fluid, and tension compelled me to make some ten or twelve incisions for drainage. Later they discharged considerable pus. At no time was there pain or rise of temperature.

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[4] Zammit: Reports of British Mediterranean Fever Commission, February, 1906, Part 4, p. 98.

Treatment.—The usual surgical treatment was employed, with potassium iodid internally. The patient made a slow but uninterrupted recovery, and was discharged July 15.

My friend, Dr. William K. Trimble, pathologist in the School of Medicine, University of Kansas, at Rosedale, corroborated my diagnosis.

REPORTABILITY OF SYPHILIS AND GONORRHEA *

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The action of the California State Board of Health in declaring syphilis and gonorrhea reportable diseases is the most important step in this relation that has, as yet, been taken in this country. In a word, it places these two diseases where they belong. It is the result of a straightforward, logical, scientific point of view, unbiased and untrammeled by any smaller consideration than that of the public health of this great state and is prompted by the conviction that boards of health and physicians are to a large degree responsible for that public health.

It thus adds another powerful factor to public hygiene and is destined to define more clearly the relation between physician and society.

It is certain to stimulate the unthinking practitioner, whose motto is "the way we did twenty years ago is good enough for me," into a realization that there is a sociologic and scientific progress for the medical profession as well as for every other branch of human endeavor; that, as society develops, the relations of its various parts necessarily change and he who will not see the movement will be swallowed up in it.

Do physicians ever stop to consider the difference between the relation of a doctor to the community in which he lives to-day and even so short a time ago as twenty-five years? To suspect a family physician of error would have been as heterodox as to change one's religion. A consultation was called only as a last resort and then the tone of the whole family was pathetically apologetic.

How many physicians can feel to-day that they stand in such relation to many of their clients? We are living in a scientific age; the tendency to question, the desire to know and understand is felt even by the most ignorant classes. It would be an object-lesson could the physicians who give their time in hospitals and clinics hear the keen analysis of their characters and methods which takes place among their patients in the waiting-room.

The research worker may shut himself up in his laboratory and obtain for us precious knowledge, the result of his devotion, labor and sacrifice. But the practitioner who applies this knowledge must remember that he forms part of the great world in which he lives; he cannot hold himself apart as a dispenser of panacea but he must live in the midst of that world swayed by its justice and injustice, its joys and sorrows, and on him is often imposed, as in this instance of venereal disease, the choice between his personal tendencies, the influence of the individuals who make up his closer life and that greater circle of activity which means the greatest good to the greatest number, the maintenance of the nation and the race.

Professor Wolf of Strasburg, moved by one of those impulses which is akin to genius, at the international conference at Berlin in 1897 for the purpose of taking measures against the spread of leprosy, brought to the notice of the assembled scientists the puerility of their cause as compared with a condition endemic in every country and unattacked. He little thought that his utterance would be the impetus to a world-wide movement.

Within two years, in 1899, the first international congress for the purpose of combating venereal disease took place in Brussels. The second followed in 1902. National societies were formed in Belgium, France, Germany, Austria, Denmark and the United States.

A close study of the proceedings and work of these societies shows that, except in England, Norway, Sweden and in Denmark as late as 1906, the only measures taken against the spread of venereal disease was the so-called *réglementation* or compulsory examination of prostitutes. In Germany, France and Austria *réglementation* still obtains, although its advocates acknowledge frankly that the system is inefficient and unreliable. They take refuge in the weak statement that a poor system is better than none.

The first European country to make and consistently carry out laws governing venereal disease was Norway. The syphilization of the army and the rapid and intense spread of the disease among a primitive peasantry caused it to assume the character of a contagious disease, pure and simple, with a very small percentage of infection by sexual contact.[1]

In 1774, '79 and '92 treatment of venereal disease was made compulsory. The point of view having been established that these were not shame diseases made it simpler than elsewhere to develop hygienic measures.

In 1860 a law was passed making hospital treatment compulsory on an order of the sanitary commission and classing them with other infectious diseases.

In 1888 regulation of prostitution was abandoned and sane laws covering hygiene and morals established.[2]

In 1901 still more stringent laws were passed covering isolation and treatment.[3]

Sweden, suffering from the same conditions as Norway, as early as 1817 made the treatment of venereal disease compulsory and at the cost of the state. For this purpose a new tax was provided for, called, since 1873, tax for the sick (*Abgabe für Krankenflege*).

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* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Finger: Ztschr. f. Bekämpf. d. Geschlechtskrankh., Leipz., v, part 12. The same condition obtains in Russia to-day, where to 7 per cent. of genital infection 93 per cent. extragenital is found. In fact, there are villages where no inhabitant escapes.

[2] In 1888 the laws regulating prostitution in Christiania were rescinded. 1. Examination and treatment were made easily obtainable for those who demanded it. 2. It was made the duty of every physician to endeavor to discover the sources of infection. 3. When necessary cases were reported and isolation in hospitals secured. Free clinics were established and, although there were 5,000 known prostitutes, 20,000 annually received treatment in these free clinics. Möller: Ztschr. f. Bekämpf. d. Geschlechtskrankh., Leipz., v, part 7.

[3] Dec. 2, 1901 (after the first congress). It shall be the care of the state:

Sec. 5. To see that the syphilitics be placed in hospitals when found necessary by the sanitary commission.

Sec. 6. Every venereal patient who does not provide himself with proper medical attendance or who fails to follow the physician's orders may be sent by the sanitary commission to the hospital and detained there until cured, or at least the danger of infecting others is materially lessened.

Sec. 7. If syphilitics are allowed to leave the hospital in a condition which is liable to infect others, the board of health must be notified. The patient will be obliged to report himself for examination at stated intervals or present a certificate which shows that he is under the care of a reliable physician. . . .

Sec. 13. If a syphilitic, still in that period of disease in which infectious symptoms might be feared, gives up treatment, physician must notify the health office. Finger: Ztschr. f. Bekämpf. d. Geschlechtskrankh., Leipz., v, part 2.

Inspectors for the provinces were appointed whose duties were carefully defined by the law.[4] Seved Ribbing is quoted as saying that it had never come to his knowledge that the people of Sweden felt these measures as inimical to personal freedom. On the contrary, the persons who have innocently or ignorantly fallen victims to the disease are thankful to the authorities. *Réglementation* was, however, still in force in Sweden.

In 1903 the Swedish government appointed a committee to deliberate over the legal measures to be taken against prostitution and its social and sanitary evils.

After seven and one-half years of deliberation and investigation it has declared itself against *réglementation*.[5]

Denmark, in 1906, rescinded the law regulating prostitution and substituted sane general laws calculated to reach every side of the evil.[6]

It will thus be seen that under circumstances of public danger these northern countries were able to establish laws both humane and thorough. Compulsory report is demanded but the privacy of the individual is respected as long as he submits himself to proper treatment and observes such rules as prove that he respects the community in which he lives. A glance at the laws in force in Prussia and Austria will show the difference in method.

By an edict of 1835, physicians in Prussia were required to report dangerous cases of syphilis to the police.[7] To a certain extent, at least as far as the power of the police is concerned, these laws are in force to-day.

Harthüng, head physician in a Breslau hospital for venereal disease, made the following statement at the international congress in Brussels, 1902: When he is convinced that his out-patients have sexual intercourse against orders of the physician, or are otherwise dangerous, he asks them to enter the hospital for treatment. If they refuse they are arrested and brought to the hospital by the police. If they leave without permission, they are again returned by the police.

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[4] Article 28. Measure against venereal disease.

1. If a physician, following the order of the authorities, examines a person supposed to have venereal disease, it is his duty to report to the magistrate the name and address of the patient if said patient cannot show within a short period, named by the physician, that he has placed himself under satisfactory medical treatment. It is also the duty of the physician to inform the magistrate, when he deems it necessary, that the patient should be sent to a hospital, and the magistrate must report the same to the physician as soon as it happens. If a patient refuses examination, the authorities must invoke the law.

2. In order to prevent the spread of venereal disease the county physician must do his best to discover the source and method of infection, as well as to further the admission into hospital.

The physician is also bound to inform the authorities if the patient refuses treatment, does not faithfully follow orders of physician, or when there is danger of further infecting others. Finger: Ztschr. f. Bekämpf. d. Geschlechtskrankh., Leipz., v, part 11.

[5] "The objections which are brought to bear against regulation from a social, moral and legal point of view are so formidable that the usefulness which, from a sanitary point of view, it might possess is not allowable as a consideration for its retention or abolition.

"Any prophylactic measure which so offends the sense of justice cannot be maintained by reason of so lame a recommendation as that it is of some, although not great, usefulness.

"Only under conditions that would prove regulation a sanitary necessity could there be any consideration of its retention. Since the committee can admit no such presumption, it cannot consent that this form of law against contagious venereal disease be further used in our country."

The committee recommended certain new laws, such as punishment for the infection of another, in severe cases two years' imprisonment; the duty of physician to search for the source and the conditions under which infection takes place; punishment to four years of forced labor for procurers; making infectious diseases grounds for divorce. Furthermore, it was recommended that professional prostitution be forbidden and such persons be made amenable to the law as vagabonds. Mitt. d. Deutsch. Gesellsch. z. Bekämpf. d. Geschlechtskr., April, 1911.

[6] Danish law of March 30, 1906, rescinds the law regulating prostitution. New laws:

Article 1. Police regulation of professional prostitution is repealed.

The police have the right to interfere (take steps against persons who practice this trade) according to the law against vagabonds.

Article 2 of the law against vagabonds can be used only after due warning has been given. This gives the police the right to bring before a judge vagabonds or others who cannot show that they have means or regular work; he may order such person to get work or provide work for him.

If the said person does not appear or does not follow the order to work, they may be punished by forced labor. However, the vagabond law can be put into effect only after a preliminary warning.

Article 2. Whoever provokes, tempts or entices to prostitution, whoever openly leads a life of indecency, whoever gives rise to open scandal or is a nuisance to neighbors, will be punished by imprisonment; under aggravating circumstances or repitition or offence, by forced labor. Under extenuating circumstances the punishment may be a fine.

The same punishment will be inflicted on any professional prostitute who keeps in her house any child over 2 years of age or who receives for immoral purposes young people under 18 years of age.

An admonition may precede punishment in any of the above cases in which it is a first delinquency.

Article 3. It is forbidden to keep houses of prostitution. Whoever disobeys this law is punishable with imprisonment, the house of correction or hard labor.

Procuring amendable to same punishment.

Whoever for pecuniary gain allows prostitution in his dwelling or rents rooms not to permanent roomers but to encourage prostitution, or who shelters girls under 18 who prostitute themselves, will be punished with imprisonment or hard labor.

Repetition of the offence may be punished by two years of forced labor in a penitentiary.

It is forbidden to advertise publicly, to expose or export articles for the purpose of preventing the consequences of sexual intercourse or to offer the same for sale to strangers or promiscuous individuals.

Article 4. Any person who has sexual intercourse under the conditions set down in Article 181 of the Penal Code will be punished as provided for in Article 181 if through such intercourse another becomes infected and institutes a suit within one and one-half years after the diagnosis of the disease.

If the person infected in such intercourse was ignorant of the danger of such infection, the author of the infection must pay not only the cost of treatment but damages (compensation) as well.

Article 5. Individuals with infectious diseases have the right, though they may have the means to pay for treatment, to derive such treatment from government sources. On the other hand, they are obliged to submit to this treatment; in every event must the individual be under such medical care as offers a sufficient security.

If the venereally infected individual finds himself so placed that he or she cannot prevent infecting others, or if he does not obey the rules of prophylaxis which have been prescribed, he must be sent to a hospital. The prefect of the police in Copenhagen and the president of the police are the authorities in such cases.

Neglect of these duties are followed by correction from the above officials. If these remain without results the police step in.

Individuals who are in receipt of public charity must be treated in hospital when subjects of venereal disease.

Article 6. If during, or at the end of, treatment the physician considers that in view of the danger of infecting others the patient must still be kept under observation, the physician must demand of the patient to present himself at stated times, if the patient does not bring a written proof that some other legitimate physician has him under treatment. The necessary proof can be obtained from the government physicians and the municipality.

If the patient does not obey this law, or if the physician wishes to give up the case and the patient does not appear with a certificate stating that he is under the care of another physician, then the official physicians must be informed and the aforesaid patient must be commanded to present himself at the public dispensary.

Article 7. The physician is commanded to inform the patient of the infectious character of his disease as well as the punishment which would follow his infections of another. Particularly must he be warned against marriage as long as the danger of infection exists.

Article 8. The physician is ordered to report weekly the number of persons who come under the head of Article 6. Patients who give the physicians false names, sheltering positions or addresses are punished.

Article 9 treats of the infection of a healthy nurse through a sick child or a healthy child by means of a sick nurse.

Article 10. Whoever is accused of crime against Articles 1, 2, 4 or 9 of these laws or 181 of the Penal Code must be asked on an order of the police to submit to examination by a physician. In case of refusal, if the proof of the accusation is sufficient, the law must force the examination.

Article 11. The medical examinations in cases above described shall be made by the public district or city physician or by a specially appointed visiting physician. The compulsory visit shall be made by a physician of the same sex as the accused (unless it is immaterial to the accused) if such is to be found in the same district, so that no delay may occur, and if the said physician is willing to undertake such examination.

Article 12. The official physician must treat all venereal patients free of charge.

Article 13. If the official physician deems it necessary, the patient must present himself at the times stated by physician. Neglect in doing so is punished first by fines and later by intervention of the police.

Article 14. Those who are treated free in hospitals may not leave such institutions without the consent of the physician.

Article 15 forbids proprietors of hotels or rooming-houses to make use of prostitution for the service or amusement of guests.

Article 16 gives the various grades of punishment and defines venereal disease and its various forms.

Article 18. The law shall go into action six months after date, Oct. 11, 1906. All earlier laws governing prostitution thus become null and void.

[7] Edict of 1835. Prussia.

65. When, according to the opinion of the physician, secrecy as to the disease will lead to adverse consequences either to the diseased person or to the community, he is obliged to report the case to the police. Failure to do so makes the physician amenable to a fine of 5 thaler, with a double fine for a second offense.

69. It is the duty of the police to see to it that physicians, especially those employed in hospitals, make every effort to inform the police of the sources of infection in order that careless and indigent persons may be prevented from further spreading the evil (Finger).

In the Rudolf Virchow Hospital in Berlin, while other diseases are treated in pavilions of twenty beds, two buildings, four stories in height, are devoted to venereal disease. It is significant that each is surrounded by a stout wall and a locked gate.

In Austria the few laws which apply have been inspired by the same spirit.

The most cursory glance at the different methods of these countries will show why in Norway, Sweden and Denmark, in spite of the appalling conditions of a hundred years ago, there is a steady decrease of venereal disease, while in France, Germany and Austria venereal disease shows no appreciable decrease. These governments will not admit that they have to deal with a wide-spread contagious disease, the control of which should be in the hands of a health commission, but still rely on the police to carry out a number of paradoxical and one-sided laws which are utterly unfitted to control disease.

Another important point in the laws of these northern countries is that concerning the investigation of the sources of infection.

In the study of a question so difficult of solution, so momentous in its importance, one seeks in all directions for the support of some known experience.

Dr. Magnus Möller of St. Goran, Stockholm, gives some interesting data based on the questioning of 661 patients, mostly artisans and laborers, concerning the sources of their infection. He was struck with the general willingness to give full information, when the questions were tactfully put and the seriousness of the investigation made evident.

At least 20 per cent. of the number gave information sufficiently clear to make investigation of the source possible; 67.7 per cent. could give no information, having been drunk at the time of infection. In one-quarter of the cases was the cause traced to controlled prostitutes. A number of cases were often traced to one individual.[8]

The secrecy maintained in regard to syphilis and gonorrhea has led to a neglect of these diseases by the general practitioner. A physician does not follow closely the woman patient whom he dares not warn of the true nature of her disease.

The symptom once eradicated, the patient drops from view and is still exposed to further ravages of the disease. The physician is deprived of clinical observation, valuable not only to his own further development, but to the health of the community. Diseases neglected in treatment will be neglected in study. It is the constant cry of specialists that the knowledge of the general practitioner in the matter of venereal disease is lamentably defective.

Professor Finger has rightly said that we shall never make progress in the treatment of syphilis and gonorrhea until the public has been made to understand that instead of being ashamed of and not fearing these diseases, they should not be ashamed of but fear them. The public can be made to understand this only by placing syphilis and gonorrhea where they belong, with the other infectious diseases.

Where these diseases are reportable, both physician and patient are placed in a position of joint responsibility as regards the public health. The physician's interest is kept alive. It would be of incalculable educative value for the man who is carrying about with him a disease to know that it is regarded, not as a concomitant of manhood, but as a pathologic condition and to be forced by public measures to consider himself a menace to others whether he evades the law or not. If, as in other infectious diseases, the law is made to cover the seeking and elimination of the sources, we shall have the whole matter of scientific treatment in our hands.

The theory has been advanced that there is only one thing to do: wait for science to find a remedy. There has been a remedy in existence since the sixteenth century. It was found by chance but properly used is good. Salvarsan may or may not fulfil its promise. It is already much talked of as an excellent adjunct to mercury.

How can the public be made to feel the necessity for treatment and how can they be saved from quacks? A law should exist making treatment of such diseases by any but legitimate physicians a criminal offence. The quack is already making use of scientific discovery and social progress.

After our first public meeting in San Francisco, a decided difference crept into the wording of quack advertisements. It was easily discernible that they were stealing our thunder.

No sooner was the discovery of salvarsan made public property than an enormous advertisement appeared in an Austrian paper inviting the public to visit an exhibition of "Professor Ehrlichhata's Cure 606." "The Greatest Discovery the World has Ever Seen. Entrance 10 pf. Fridays for ladies only." The usual panoptikum wax figures were shown with the inscriptions: "Before Treatment." "A Few Hours After Treatment with Herxherimers Reaktion." "Several Days After, Cured."

There are only two ways for the medical profession to protect itself from these parasites: appealing to the law and assuming a definite attitude regarding this question.

For those who have studied the psychology of the crowd, it is not so difficult to see the reason for the success of the quack. He talks out loud, very loud. He makes a great show of being open in his methods. The people do not go to quacks for the treatment of venereal diseases alone. They fear and distrust the knowledge of the physician which he dares not impart. It smacks too much of magic and so often does not fulfil its promise.

Let the public realize that we range ourselves on the side of law, order and justice. Let the physician respect the confidence of his patient but let him scorn the confidence of the man who would deliberately do a criminal act and make him a party to it. There may be those who will prate of professional secrecy, but in their souls they will esteem and admire the man who can rise above an antiquated tradition in order to save even one woman from the results of either one of these dread diseases.

The medical profession stands in a position of peculiar delicacy in this matter, being the only class outside the handful of social workers, who have come in contact with the recognized results of prostitution. Physicians in the world and of it have shared the universal error of secrecy. We may safely say—until now an error. We may also confidently assert, speaking for the world, or rather for those who make the world worth the while and who must ever be the mouth-piece and the guide of the physically, mentally and morally unfit, that the physician who now lends himself to the policy of secrecy makes himself the accessory to a crime.

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[8] A number of cases were often traced to the same source of infection: thus, three cases of gonorrhea to the same controlled prostitute. Three cases of primary syphilis (two boys of 16) to the same source. Four gave the same woman as cause (controlled prostitute. (Magnus Möller, Stockholm. See Note 2.) In Norway during a period of nine years, by means of report and search for the source, 546 women of all ages, of whom 262 were syphilitics, came under the care of the sanitary commission. Strange to say, only twenty-two syphilitic men were discovered in this manner. Italy must be mentioned as not only treating all who come gratis, but providing medicine as well. This law, *Lex Crispi*, was due to the efforts of Prime Minister Crispi.

It is not only his bounden duty to take his public stand for the public good, but it is also his duty to assert his attitude toward those of his profession who through ignorance, mistaken ideals, or absence of professional honor create an opposition which is destined to deprive medical practice of its right to be called a profession.

The moment for half measures is past. The dire physical consequences, with frequent vicious mental accompaniments, come to our notice daily and what do we do about them? We are treated like merchants. Our prescriptions are taken—bills paid or not; our patients neglect themselves or worse—pass on the consequences of their vice—and we shrug our shoulders, pocket the money when we get it and feel that our duty is done.

The members of the international congresses of 1899 and 1902 found themselves face to face with a seemingly insoluble problem. In despair at finding an immediate corrective, and overwhelmed at the universal magnitude of the problem, like little children of larger growth, they turned to the mothers and cried out, "You cannot make us over. See in us the evil effects of ignorance and neglect. Care for our sisters and brothers!" They did, it is true, strike a fundamental note. Reformation of character can rarely begin with the adult.

The horror of economic conditions has been laid bare and willing hands and minds are working in every direction to help the poor to a living chance. But what has the medical profession done? It is now twelve years since the first international congress was held. Societies for the purpose of fighting venereal diseases have been formed the world over, inspired or founded by medical men. In this country the general complaint is that medical men do not uphold them. It is the layman who keeps them going.

It is time that the medical profession rises as one man and does its duty toward the state in which it lives and the nation whose health it is supposed to safeguard. Publicity in this matter of venereal disease is one of the first requisites for its control, as it is for the control of any other infectious disease. Read the findings of the Chicago Vice Commission and ask yourselves if there should be any more temporizing.

If laws demanding a report of every case, without name, be passed; if every discoverable source of infection be controlled regardless of the patient's social position; if adequate hospital and clinical facilities are provided not only for the very poor but for the struggling middle class, the medical profession will be able to say with pride: "We have done our best to inspire public confidence. We have vindicated our right to be the custodians of the public health."

5 Avon Street.

Neglect of the Middle Period of Life.—The rungs at the bottom of the ladder of life are being carefully looked after; those at the middle of the ladder have been neglected; the physical welfare of the man has been lost sight of in the multitude of attempts at prolongation and betterment of the physical properties of the child.—Guilfoy in *Journal American Public Health Association.*

REPORT OF COMMITTEE ON CONTROL OF VENEREAL DISEASE BY A MUNICIPALITY *

When I was asked by the Chairman of the Section on Preventive Medicine and Public Health, Dr. William A. Evans, to act on a committee for the purpose of reporting on the control of venereal disease by municipalities, I accepted without hesitation and for two principal reasons: first, because my associate on the committee was to be Dr. George M. Kober of Washington, who has studied this problem exhaustively and has reported on it, and second, because I have made some study of the question myself and consider it one of the most important problems, as well as one of the most difficult ones, with which the public health official comes into contact and is expected to solve.

There is no need of taking up the time of a gathering of sanitarians by reciting statistics, easily accessible and probably more or less known, to show the prevalence and the ravages of this class of diseases. Such an introduction to the subject would be indicated in a popular address, but may be safely omitted here.

I have written to the health officials of twenty-one of the larger cities, asking what their cities are doing for the control of venereal disease and what, in their opinion, the cities should do. I have received answers from fourteen cities, and they show that in seven nothing is being done, in six some steps are now being taken for the prevention and restriction of venereal disease, and one city, namely New York, is about to start a vigorous campaign, which is outlined by the secretary of the Board of Health as follows:

"As the result of widespread agitation that has taken place in the city of New York during the past few years, the Board of Health has urged on the Board of Estimate and Apportionment the need of making provision in the next annual corporate stock budget for the erection of a public hospital for the care of persons suffering from venereal diseases. In addition, the matter is to be referred to the Medical Advisory Board of the Department of Health and it will be requested to consider the subject and submit recommendations for a comprehensive plan for the public control of all such diseases."

In four of the seven cities in which nothing is being done, the health officers make no recommendations and give no expressions of opinion as to what ought to be done, but in the three remaining cities the health officers are evidently anxious and willing to start activities. They all recognize the value of an educational campaign and all advocate it.

One of the writers, a health officer of a large eastern city, says: "Every city ought to furnish advice to those contemplating marriage. More than this, it should work for the control of these diseases by instituting a program of sex education, beginning with the little child when it first begins to ask questions relating to the origin of its being."

Another letter from a far western city says: "I think, however, that the public should be educated on the importance of this question, as the results are more far-reaching than any one has an idea of."

The third letter from an assistant health officer strongly advocates "a sane method of spreading knowledge on this subject" as the only way to control the diseases. Of the six cities in which some precautionary methods are in vogue, five are taking care of the patients in hospitals, some insist on hospital treatment which is compulsory or nearly so, while others take only such patients as are willing to go to a hospital for treatment. In two cities, special clinics are maintained by the municipality for the purpose of controlling venereal disease. At these clinics cases are registered, patients properly treated and can be kept under observation.

An interesting letter was received from the health commissioner of one of our most prosperous and growing western cities. He deals with the subject from the standpoint of the spread of venereal disease by public prostitutes and relates some interesting municipal history. The former mayor of the city in question established a restricted district, in which all known prostitutes were segregated and then subjected to rigid inspection and police control. On account of the establishment of this district and conditions which surrounded it, a recall election was held and a mayor elected who announced his position in his campaign substantially as follows: "If I am elected mayor I will not allow a restricted district to exist in the city, and furthermore, I do not believe that public prostitution is necessary." The health commissioner goes on to say that the mayor has carried out his preelection promise and that the city is much freer of prostitutes than it has been at any time within the last twenty-two years, and then the writer concludes: "Venereal infection in this city has been reduced to a minimum. Two years ago, the woman's ward in the City Hospital was filled with women suffering from venereal infection. To-day, while we are treating more patients, such diseases are not frequently seen." Although I cannot agree with the doctor's conclusions, I was much interested in his report and am pleased to submit it. There are only two cities from which I have received the information that these diseases are reportable to the board of health. The health officer of Cleveland says: "Venereal diseases are reportable in Cleveland. The law is not strictly enforced, as it is as yet almost impossible, but it gives us the power to order to a hospital any one that we find, for instance, in salesrooms or restaurants, etc., affected with venereal disease." Dr. Evans of Chicago reports that the dispensaries of that city are required to report venereal diseases and that, even without a law requiring this, hospitals are reporting to the board of health, for the most part at least, their cases of venereal disease.

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* Read in the Section on Preventive Medicine of the American Medical Association, at its Sixty-Second Annual Session, held at Los Angeles, June, 1911.

In Michigan and in Detroit there is as yet no law requiring the reporting of cases of venereal diseases. This is true, not because the public health officials are opposed to having these cases reported, but rather because they believe that it would not be possible at this time to enforce such a law strictly. In order that a sanitary law may be enforced it must be backed by public opinion, and this can be brought about only by a campaign of education. We therefore believe that the first and most necessary step for the control of venereal disease is a vigorous campaign of education which will teach the people something of the prevalence and dangers of these diseases and the necessity of reporting the same.

The physicians, too, must be educated in this respect. Ten years or more ago it would have been impossible to have passed and enforced a law requiring the reporting of cases of tuberculosis, and practically the same objections that were then advanced against such a law are now used against the reporting of these diseases. It is held by the opponents of such a measure that the knowledge of a patient having venereal disease must be kept secret between the patient and his physician. This objection can easily be overcome by inserting in the proposed law, as was done in the case of tuberculosis, a section protecting the records and making it unlawful for the health officer to divulge them.

In undertaking a campaign of education of the masses, the health authorities of any municipality should seek the cooperation of a number of intelligent people who may associate themselves by the formation of a society for sex hygiene or some similar organization. This has been done in Detroit. There has been formed an organization known as the Detroit Society for Sex Hygiene, whose principal object it is to give this subject the proper kind of publicity. Pamphlets have been published and distributed in the workshops, in public schools, among church societies and in other places where it is thought they would do the most good. A number of public meetings have been held in which well-informed speakers have explained the subject to the people. In this way public sentiment is being aroused and it will not be long before it will be possible to obtain a law requiring the reporting of all cases of venereal disease and at the same time it will be possible to enforce such a law.

In the meantime there are some things that a municipality can do looking towards the prevention of venereal disease. In the case of tuberculosis we did not wait for the reporting of all of the cases but rather went in search of them. In Detroit, for example, we employed visiting nurses to make a house-to-house canvass, the primary object of which was to spread the gospel of the prevention of tuberculosis, but incidentally to find cases of the disease that had not been reported and refer them to the board of health for further investigation and action. In the case of venereal disease, we can reach some of the cases, and it seems to us that the practice now in vogue in Chicago and reported by Dr. W. A. Evans, namely, to require the reporting of cases of venereal disease by all dispensaries and hospitals, is a good one. There is no reason why this cannot be done in other communities and it is not likely that hospitals and dispensaries would object to such a requirement. Again we know that in nearly all cities there are a number of prostitutes, and in most cities these women are more or less segregated, and we further know that among this class are to be found a large number of cases of venereal disease. It stands to reason, then, that these women, who are plying a lawless vocation, should be made to report the cases of venereal disease that may exist among their number. In making this suggestion we do not intend to recommend the licensing of houses of prostitution and the regular medical inspection of their inmates. We believe, as has been said by Dr. George M. Kober in his paper on "Diseases Which Menace Public Health and Morals," "that such licensing and medical inspection tend to produce a false sense of security, as inspection is insufficient to prove the absence of disease even in the hands of the most skilled." On the other hand, it is possible to secure the reporting of venereal disease among prostitutes by another method, which has been adopted by the Detroit Board of Health. We accept no certificates of good health whatsoever. The keepers of all houses of prostitution, known to the police, have been notified by the latter that inspectors from the board of health will make occasional visits at these houses for the purpose of examining inmates. These visits are made at unannounced and irregular intervals. Whenever an examiner finds one or more of the inmates ill with a venereal (contagious) disease, the house is placarded. We use a large yellow placard with the one word, "quarantined," printed thereon in large, conspicuous black type. If the keeper of the house or her physician reports the case to us before we discover it, we give the patient the alternative of going to the hospital and do not quarantine the house, just the same as if it were a case of some other contagious disease, for example, small-pox, scarlet fever or diphtheria. The effect of this regulation is that the cases are reported, but the machinery necessary to make it a success is a corps of competent medical examiners and proper hospital accommodations. In Detroit it worked out as follows: Shortly after the adoption of the regulation by the board of health, the health officer made a visit to one of these houses and examined the inmates. One woman suffering with gonorrhea was found, the clinical diagnosis being confirmed by a bacteriologic examination. The house was immediately quarantined and the result was that within a week we had reports of at least twenty cases of venereal disease with requests that the patients be removed to the hospital. We found that our hospital facilities were wanting and accordingly began an agitation for an appropriation for this purpose, which was finally granted in the spring of this year and we hope, within the next twelve months, to have hospital facilities sufficient to carry out the plan.

There is another class of cases of venereal disease, gonorrheal vaginitis in young girls, which can be reached. Many of these cases are found in dispensaries and children's hospitals and would be reported under the Chicago plan; many others can be found in the juvenile courts wherever such institutions are in existence. A juvenile court has recently been established in Detroit and by placing a physician at the disposal of the court for the purpose of examining the girls and boys who come under its jurisdiction, a number of cases have been discovered. I desire to say in this connection that the cases of venereal disease among boys have been very few as compared with those found among the girls.

The maintenance of special clinics by the municipality, such as are reported from two cities, is of great value in the control of these diseases. In Detroit, and in many other cities the board of health maintains one or more clinics for tuberculosis. In these institutions the cases are found and the opportunity is given to the board of health for a visit to the homes of the patients and the possible discovery of additional cases. It has been our experience that the majority of incipient cases are found in this way. The same opportunity for a visit to the homes and a proper inspection may be had in the case *of a special clinic for venereal diseases.* We are about to open such a clinic in the Board of Health Building in Detroit and are hopeful of good results.

It is a striking fact that in my correspondence with the health officials of fourteen cities, only one, in his answer, alluded to the damage done the eyes of the new-born by gonorrheal infection. The suggestion comes from Dr. Evans of Chicago that this side of the problem should not be forgotten, and well we know that he is right. To control ophthalmia neonatorum every city should have effective regulations governing midwives and physicians who attend maternity cases, as well as hospitals and institutions in which such patients can be cared for. Special clinics, known as "mothers' clinics," should be maintained and, besides being in charge of a competent physician, they should be equipped with a corps of visiting nurses whose duty it is to make calls at the homes of the babies and, while instructing the mothers in the general hygiene of the child, they should pay particular attention to the care of the eyes.

In conclusion I would make the following recommendations:

1. The inauguration of a campaign of education, in cooperation with a society specially organized for that purpose.
2. The requiring of reporting of all cases of venereal disease by dispensaries, hospitals and juvenile courts.
3. The requiring of the reporting of all cases among prostitutes.
4. The establishment of special clinics under boards of health for the treatment and control of venereal diseases.
5. The enactment of a law requiring the reporting of all cases by physicians.
6. The establishment and maintenance by the municipality of hospitals of sufficient capacity to care for all highly infectious cases.
7. The establishment of laboratory facilities for diagnostic purposes, such as are had for other contagious diseases.
8. The amendment of all birth registration laws so that births are required to be reported within twenty-four hours.
9. The enactment of laws or regulations for the control of midwives and physicians who attend maternity cases.
10. The enactment of laws requiring the reporting of specifically infected eyes.

Guy L. Kiefer, M.D.,
Health Officer, Detroit.

I concur in Dr. Kiefer's recommendations.

George W. Kober, M.D., Washington, D. C.

ABSTRACT OF DISCUSSION

ON REPORT OF DRS. KIEFER AND KOBER AND PAPERS OF DRS. GREENE AND EATON *

Dr. Herbert Gunn, San Francisco: As chairman of the Committee of Public Health of the County Medical Society of San Francisco, I had occasion to look into this subject very thoroughly. We were asked to pass judgment on it, which later on was deferred; but I took the trouble to go to the venereal disease clinic established in San Francisco, as described in Dr. Eaton's paper, frequently during that time, and also to go around at night with the plain clothes policemen who were in charge of the work under the supervision of inspectors of the clinic. I know, from personal observation, that a definite work is being accomplished there. They have under the control of the clinic now several hundred women; many of those found infected have been checked up in their homes or their places of business, at various hours of *the day* and night, and it has been found that a great many of them are really not doing work when they have been told not to do it. The madam in charge of them, in instances in which they are in regular houses, cannot afford to allow them to do it, because the houses are put out of business for a week on the first offense, or permanently if repeated. One woman was sent to the county jail for sixty days for having disobeyed the orders of the clinician; so that many of them are afraid to disobey. The only thing which I could see which would greatly *improve the work would be the absolute segregation of prostitutes.* Were this possible they could be controlled very much better than they can now. The greatest difficulty is encountered in dealing with the women in cafés or dance halls—women who live, possibly, in apartments and go to these cafés to pick up customers whom they take to a transient hotel, subsequently returning to their apartments. These women are very hard to control, because they move around constantly. I believe, however, that quite a number of them are going to the clinic, while some have either left town or stopped doing work when they were ordered to appear for examination.

As far as the matter of education is concerned, and the dissemination of knowledge on this subject, I think that the establishment of the clinic in San Francisco has done more in that line than anything that was said or done by any of the societies of California prior to its establishment. Every business man in San Francisco at the present time is perfectly familiar with the subject; they are talking about it, and the majority of them, I believe, are in favor of it.

As far as the success of *réglementation* or segregation and the regulation of prostitution is concerned, it is not a failure in all parts of the world; and, furthermore, if it were, is that any reason why it should not be tried again if no better working plan can be devised? In Manila the plan of segregation and inspection has been carried out thoroughly and successfully. The percentage of venereal disease there has materially decreased. Years ago, when I was in the Army, Manila was one of the worst infected cities in the world. Even then, I saw examples on a small scale of segregation and regulation in army posts. In one regiment, nearly 900 strong, over 400 had venereal disease. In one company there were thirty cases of syphilis, nearly all originating from one woman.

The smaller the town the less the difficulty there would be in controlling prostitution. In the larger cities the difficulties are considerable, especially in San Francisco. In the valley towns of California, for instance, it could be carried on with very little difficulty, because practically every prostitute would be known by everyone in town, so they could be readily controlled.

It is said that venereal diseases should be treated the same as other infectious diseases. Why not treat them as smallpox is treated? In San Francisco patients with small-pox are either quarantined in the house or sent to the hospital; they are immediately isolated and compelled to be under observation; exactly as they are doing with venereal diseases, as far as possible. True, they cannot control them entirely, but if we, as physicians, or people, as business men, found that expenses could be decreased 10 per cent., would the opportunity not be embraced? If we could reduce a typhoid epidemic 10 to 15 per cent., we would think we were doing a good deal. Exactly the same with this: if you can control a small part of it, you have done something. If this clinic does no more than save one or two a month from developing syphilis it is accomplishing a good work.

Dr. Frances M. Greene, Cambridge, Mass.: When I first went to the laboratory of our great master, Rudolf Virchow, I was going to do more than anybody else ever did. I began at the beginning and worked for several weeks with might and main. Then the Geheimrath came to me and said: "Now, my child, when you begin to do a scientific work, the first thing for you to do is to find out what was done before, and if it was done, and well done, by reputable scientists; begin where they left off, but do not waste your time in doing the things that have already been well done." That is exactly what is being done in San Francisco to-day. It is a great paradox. Directly following the passing of one of the sanest laws—we are the one race that has had the courage to put these diseases where they belong, with other infectious diseases—we go back 100 years and begin where Napoleon began in France—trying to segregate the prostitute and control venereal disease in that way. Dr. Nevins, an English authority, calls attention to the fact that venereal disease of all kinds throughout the whole home Army, and also primary disease in the Army stations under *réglementation* (that is, under the contagious disease acts) show the same results—a large reduction of disease for six years before *réglementation*, under the influence of sanitary, social and moral agencies with the object of raising the character of the men. These agencies were still sporadic when *réglementation* was tried; and the disease still continued to fall, but at a low proportionate rate. The government, dissatisfied with comparative failure, stopped the pay of the men, sent them to the hospital for primary diseases, and the men ceased to report to the Army doctors. Hence the published statistics of the disease were unreliable owing to the amendment.

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* The paper by Dr. G. L. Eaton, San Francisco, describing the attempts at regulation carried on in that city, is not yet published. The entire discussion is given here, however, following the remainder of the symposium.

It is a well-known fact that there are constant oscillations in this matter of venereal disease in all countries, whether they are under *réglementation* or not. In 1883 *réglementation* was suspended; that is, the theoretical examination of the women at a certain time when the soldiers were returning from Egypt, bringing a great deal of disease, and the figures rose for those two years. In 1886 parliament absolutely abolished *réglementation*, and venereal disease began to fall largely and steadily from 275 per thousand to 140 per thousand during the twelve years of abolition. In India there was a steady fall for seven years before regulation. After the introduction it went on falling, and then it rose again for nine years, at the end of which time, as in the beginning, it rose steadily; and at the end of twenty-one years it was twice as high as in the beginning.

Denmark had regulation eighteen years—1874 to 1891. During the first six years the army at Copenhagen showed sixteen cases to a thousand; during the last six years it showed 201 per thousand under regulation. The Dutch East India army under regulation showed 443 per thousand; the English in India at the same time, without regulation, showed 425 per thousand.

Now, it is an absolute fact, declared by every known specialist on venereal disease, that you cannot always diagnose a gonococcus infection, and that you cannot possibly control women by examining them, for this reason: these diseases may be passed by the vagina, even if the woman has no disease whatever. Here are the statistics in the British camp at Aldershot: In 15,000 men, among whom there was general inspection, Mr. Lawson found twenty-three per thousand in one regiment; 142 in another; and all of them under exactly the same regulation. In the English army, therefore, in order to investigate this matter, fourteen stations were selected and fourteen left without *réglementation* as an experiment; the lowest in the whole twenty-eight was in a camp in which there was no regulation. The same occurred in Holland and in Denmark. Pearson of Holland says that in certain cases women absolutely without disease would pass it on from man to man. At Hardwicke, in Holland, the women of the two houses of prostitution were rarely seen, but the numbers were enormous that had venereal disease, which went up to eighty-seven per thousand. In the Franco-Prussian war, at one place there were 200 women who were thoroughly examined, as they thought, but the hospital was filled with soldiers with venereal disease. They examined these women and found only one or two cases of disease in the whole 200.

The greatest of all specialists on this question, M. Fournier of Paris, says: "We cannot do *réglementation* well. It is impossible." They have had a commission there for years trying to better the conditions, but he shrugs his shoulders, as a Frenchman would, and says: "*Réglementation* may do a little good; but we have no right to do that little good, because we are doing a great deal more harm than that little does good."

What do you suppose it means in San Francisco to let our youth know that prostitutes are being inspected? These young, sincere and enthusiastic physicians who are trying to do it present their first statistics and declare that they have the diseases under control. What does it mean? That they say to the young boys in San Francisco: "It's all right, boys. Go ahead!"

In Berlin there are 5,000 prostitutes under absolute control. Do we hope, could we hope, in San Francisco, under a mayor who declares absolutely that the town is "open," who has opened every dive that a former good administration closed; who will not allow any measures to be used against dance halls—can we hope to make that police sufficiently conscientious to drag those women to the courts; and, after all, have we any right to drag those women? None whatever. None, more than we have to drag the men. But we can interpret the wise law which the State Board of Health has formulated. We may not get every case; but we must make every one, the prostitute as well as the non-prostitute, the men as well as the women, amenable to the law.

In Norway there is no objection to clinics; they have three; and while there are 5,000 legalized prostitutes there, they treat some 20,000 to 30,000 women every year, and men as well; and it is only in this absolutely just and sane way of treating the matter that we can hope to make any real progress. We must not assume from little sporadic indications that we have done it all; the thing that has existed for so many decades cannot be cured in three months!

Dr. W. F. Snow, Sacramento: We have in California a number of very interesting plans which are being tried out in the way of control of syphilis and gonococcus infections. Los Angeles is at one extreme of the problem and San Francisco at the other, with the State Board of Health trying to begin somewhere in the middle. Education of the people is the only thing which is going to help us permanently make progress on this problem, and I believe that the control of marriage is more important than the control of prostitution. The accurate reporting of syphilis and gonococcus infections cannot be overestimated. In California we now have a state law requiring syphilis and gonococcus infections to be reported. I supposed that it would be rather slow work getting reports from physicians, but it is not so. They are beginning voluntarily to report before our board has even had time to draft an explanatory letter stating what we wish on this subject.

We should make these diseases reportable by law in every state and city. I think we can do it without in any way involving the professional confidence between physicians and their patients; and I believe we can build on that, as Detroit has done, in an administrative way. I think, secondly, we should work for better laws controlling marriage and prostitution; thirdly, we should unquestionably come out in the open, as men and women, and discuss these things on a high and practical basis, and educate every boy and and (I want specially to emphasize this) every girl, with reference to the physiology and the hygiene of sex.

Here in California, as I said yesterday, over 85 per cent. of our children leave the schools when they are 15 years of age. Who helps them with this problem? Their parents do not. Their parents have not been taught how to help them wisely; our schools give them practically no instruction on this subject. Who helps them in that period of awakening passions, from the age of 15 to 27, when our young men in this state and the United States as a whole marry? Who tells them of the dangers of visiting the "red-light" districts? No one. I think we, as citizens of the United States, owe it to these young people from the age of 15 to 27 that they should know about the dangers of these communicable diseases, the facts of sex hygiene and physiology, and the sacredness of marriage, that in their time they may come to realize that greatest of all human blessings, a happy home and family.

Dr. E. Stuver, Fort Collins, Colo.: We have done a great deal in the last few years in the attempt to stamp out tuberculosis and to educate the people as to the dangers following from this disease. I believe that venereal diseases to-day are causing a great deal more trouble, sorrow and death in this world than is tuberculosis; and I believe that we should devote as much or more time to the stamping out of these diseases as we devote to that of tuberculosis.

I fully believe that every case of venereal disease should be reported. About sixteen years ago I read a paper before the Colorado Medical Society advocating the reporting of these diseases and the isolation of those affected with them in special hospitals for that purpose. To me, the most important thing in connection with the prevention and control of venereal diseases is education. I believe that we, in the reading of papers, speaking in discussions, and all that sort of thing, at our meetings, should do that; and not only that, but we should go back home to our several communities and constitute ourselves a committee of one and carry this expression to the people who are under our charge. I believe that every physician here, by approaching the director of the Y. M. C. A., the superintendent of the schools, or in other ways, could have the privilege of educating the people of his community.

During the last couple of years I have delivered a course of lectures to the boys of our Y. M. C. A. on this very subject. I have also given a couple of lectures to the nurses in our training school on the subject, because no one is more exposed to the dangers of venereal infection than the nurse. By this individual, enthusiastic work on the part of every physician in the country we could soon so arouse the people that they would say that venereal diseases must be controlled. I do not say stamped out, because I do not believe, as long as human nature is constituted as it is, that we will be able to stamp out venereal disease; but I do believe that we can place it under such control that the innocent will be protected and there will be no necessity for anybody being ignorant on the subject. And, as before stated, nearly all the young boys and girls at the present time are really ignorant on this exceedingly important subject.

Dr. S. A. Knopf, New York: The control of syphilis and venereal diseases in general, as has been outlined by the preceding speakers, I most highly approve of. There is, however, one phase which should not be forgotten. That is to say, every city should do as New York has done—have an open house for the girl who wishes to leave that life. We have in New York such a house; we call it simply Waverley House, not Magdalene Home. We do not like that name. We let every girl who voluntarily wishes to return to a proper life enter there; no questions are asked. Most of our judges, when about to sentence a girl who has come up for the first or even a second time for soliciting, give her a chance to go to this probation or Waverley House and be under the care of a probation officer. Last year no less than one-third of all the girls received at that home returned to society as honest members. They have left their life of sorrow and shame voluntarily; they have returned to their parents, have been given positions, or have been provided a trade, so that they can now earn an honest living. The society providing this home for the unfortunate girl is incorporated under the laws of the State of New York, and the best men and women of the community are interested in its work and help to maintain it.

Therapeutics

ASPHYXIA

By asphyxia is commonly understood "a state of suspended animation caused by impeded respiration, as by strangulation, smothering, submersion, or the inhalation of an irrespirable gas" ("Foster's Medical Dictionary"). To these conditions should be added asphyxia due to electric shock or lightning stroke.

Asphyxia is one of the grave surgical emergencies which demands instant action by anyone present who knows what to do. Every physician should be conversant with the best methods to employ in treating patients in this condition. Its importance is equaled only by another grave surgical emergency, that of hemorrhage from a large vessel.

The forms of asphyxia which we are most likely to encounter are that of the new-born, that which is present in drowning, that which occasionally occurs during the administration of an anesthetic, and that due to the effect of electricity or lightning.

ASPHYXIA NEONATORUM

This condition is one which every obstetrician should be prepared to treat promptly. In milder degrees it occurs in a large proportion of deliveries. In its more severe forms it fortunately is less common.

The more common causes of the condition are premature detachment of the placenta, prolapse of the umbilical cord, excessive use of chloroform, of chloral, or of morphin administered to the mother to diminish the pain of labor, or large doses of ergot given during the second stage of labor to increase the contraction of the uterus, extreme compression of the head of the child owing to unusually severe contractions of the uterus separated by brief intervals, obstruction to the passage of the head by narrowness of the pelvis, compression of the head by unskilful delivery with forceps, compression of the after-coming head in the delivery of breech cases, and compression of the cord through its being wound around the child's neck, or through its being drawn into a knot.

The preventive treatment naturally is based on a consideration of these causes. In instrumental delivery great pressure on the head of the child should be avoided, and the traction should be made intermittent and not continuous. If there is prolapse of the umbilical cord, it should be replaced, the woman placed in the knee-chest position, and every effort made to retain it until the head has become engaged at the brim of the pelvis. In all severe labors preparation should be made before the birth of the child to apply suitable treatment in case it should be born in a condition of asphyxia. These preparations should include a baby's bath tub with a supply of warm water conveniently at hand, a bowl of cold water, a warm woolen blanket, small pieces of gauze, a bottle of aromatic spirits of ammonia, a bottle of whiskey and a hypodermic syringe.

As soon as the child is born it should be promptly slapped repeatedly on the buttocks and back. The mouth and throat should be wiped out with a piece of gauze so as to clear out any blood, mucus or amniotic fluid which may be there. If this does not promote the reflex action of breathing, the cord should be felt to see if it is pulsating.

By this time one has had an opportunity to inspect the surface of the child to see whether the condition is one of *asphyxia livida*, in which the skin is congested and livid and the reflexes are maintained; or whether the condition present is *asphyxia pallida*, in which the surface is pale and cold, the muscles are relaxed, and the reflexes are absent. The treatment should vary somewhat according to which of these two conditions is present.

If the condition is one of *asphyxia livida*, with congestion of the skin, there is some difference of opinion as to whether the cord, if it is pulsating, should be at once cut and a small amount of blood allowed to escape, or whether it should not be cut until later. Probably it is wiser to postpone this for five or ten minutes. In the meantime the child should be grasped by its feet in the left hand of the physician and held in an inverted position while several light blows are administered on the buttocks, shoulders and chest, in order, if possible, to expel any more blood or mucus which may be in the larynx and trachea. This position should be maintained for only a few seconds.

Next, the Byrd Dewey method of artificial respiration should be tried. This consists in placing the palm and fingers of the right hand under the child's shoulders while the index finger and thumb support its head, the left hand being placed under the hips. With the child in this position, by raising the radial sides of the hands, the legs and knees of the child are brought up onto its chest and the chest is compressed so that the air is expelled; then reversing this position and allowing the head and shoulders to fall backward, the chest is expanded and the air drawn in. These maneuvers should be repeated at intervals of about five seconds, so that the procedure will be repeated from ten to fourteen times in a minute. If the cord is of average length, this can be done before the cord is cut.

If the cord has not been cut before, it should be now, and the child at once placed in a tub in which water of a temperature between 100 and 105 F. has been placed. This will promote the circulation in the skin and prevent the body from being chilled, and further treatment may be carried out.

The next method of encouraging respiration is that known as the method of Laborde. This consists in grasping the tip of the tongue either with the thumb and finger, with the aid of a piece of gauze, or with forceps, and drawing it forward and then letting it fall backward. This should be repeated from ten to fourteen times in a minute, and may be continued for one or two minutes. While this is being done the child should lie with the head drawn slightly backward, or on one side.

If the child does not breathe by this time, it is well to take it out of the warm water and plunge it into a bowl of cool water of a temperature of from 65 to 75 F. It should be allowed to remain there but a few seconds, and then placed back in the warm water. In the meantime it should be vigorously rubbed, but at the same time caution should be used not to rub it harshly for fear of doing serious damage to the skin.

In some cases it has been found that inserting the tip of the little finger into the anus will stimulate the reflex action of breathing.

Another method not infrequently employed is that known as the method of Schulze, which consists in standing back of the child, placing the palmar surfaces of the three outer fingers under its shoulders, the index finger of each hand under the axilla, and the thumbs on the chest, with the ball of the thumb resting on each side of the child's head. The physician thus grasping the child and then standing erect, gradually swings the child forward and upward in front of himself until it is above his head. In this position the child's thighs and legs fall against its chest, which is thereby compressed and the air forced out. Then swinging the child back into the original position, the chest is expanded, and the air enters. This may be repeated at intervals of five or six seconds, so that it will be done from ten to fourteen times in a minute. This is a method which presents more or less of the appearance of violence, and hence it is not always practicable to do it in the presence of the friends of the patient. It should also not be practiced if there are fractures of any of the bones, or if the child is especially feeble, or has been born prematurely.

If difficulty has been experienced in clearing the larynx and trachea of mucus, a small soft catheter may be inserted through the larynx into the trachea, and any mucus present drawn out, either by the physician himself or with the aid of a syringe or aspirator.

If other methods fail, it is recommended to blow air into the lungs of the child. This may be done by the so-called mouth-to-mouth method in which, a piece of gauze being placed over the mouth of the child, the physician filling his cheeks with air expels it into the mouth of the child, at the same time holding the child's nose. This method is somewhat inexact, as much of the air frequently goes into the stomach, but some of it goes into the lungs, if they are not already distended. After blowing air into the lungs, the chest should be compressed so as to drive it out again.

A few drops of ammonia on a piece of linen may be held under the child's nose, but not too closely, with the hope that this will stimulate respiration and, as it sometimes does, muscular contraction.

A hypodermic injection of 8 to 10 drops of whiskey is frequently recommended. Other things recommended are a hypodermic injection of a drop of tincture of belladonna or 1/1,000 of a grain of strychnin.

If by the time all these methods have been tried the child has not commenced to breathe, the physician naturally wonders how long he ought to continue his efforts. The answer to this question depends largely on the condition of the heart. He should continue efforts at artificial respiration and external stimulation as long as the heart beats. After it has been impossible for five minutes to detect any pulsation of the heart, it is useless to continue any further efforts at resuscitation.

If the efforts have been successful and the child commences to breathe, even if the breaths are taken at long intervals, one should avoid an over-anxiety in interfering with the natural performance of the function by the child. Once it has begun to breathe it probably will continue to breathe and the breaths will increase in depth and frequency until they become normal.

Turning now to the other class of asphyxia neonatorum, viz., *asphyxia pallida,* in which the reflexes are absent and the heart is weak; if the cord is not pulsating, it should be immediately cut and the child placed in a tub of warm water. If, however, it is pulsating the child should not be separated from the mother until the pulsation has ceased. The same methods are applicable in these cases as in the others, except that the more violent ones had better be omitted and all the efforts concentrated on the employment of the milder methods, especially the rhythmical traction of the tongue as practiced by Laborde. Especially is it important to maintain the temperature of the child, and the water in the warm bath should be maintained at a temperature of 100 or a little higher by adding fresh warm water as fast as the water in the tub becomes cool.

After the child has gained the ability to breathe regularly it should be carefully watched for several days, for if there has been difficulty in relieving the asphyxia, there is danger that it will become feeble and die in the course of a few days. It should be well wrapped up, and the external heat should be maintained. Whiskey may be given in doses of from 3 to 5 drops every two hours. The milk should be drawn from the mother's breast and fed to it with a medicine dropper, if it is not able to take hold of the breast and draw for itself.

(To be continued)

Martyrs of Science.—Unhappily every important new development in human knowledge brings its martyrs. When Langerhans, in 1896, lost his 2-year-old son—the first definitely recorded death following the use of serum—ignorance and wilful prejudice sought to attribute it to antitoxin. No one was yet sufficiently alert to see the great significance to humanity of the phenomenon that most likely was the cause of this pitiful sacrifice.—R. G. Eccles in *Medical Record.*

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 DEARBORN AVENUE . . . CHICAGO, ILL.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

[*For other information see second page following reading matter*]

SATURDAY, SEPTEMBER 23, 1911

THE ACTION OF TROPICAL SUNLIGHT

Modern investigation of tropical diseases has been so successful that in our enthusiasm we are apt to consider these as the only influences deleterious to life in warmer climates. It must be remembered, however, that the physical peculiarities of the tropics also have their effect on the animal economy—an effect the exact importance of which it is difficult to estimate. These various physical factors of a tropical climate are being studied, and Aron[1] in recent articles gives the results of his investigations on the effect of tropical sunlight on the living organism.

It is obvious that sunlight in equatorial and subequatorial regions will be more potent than that of more temperate zones; for not only does the perpendicular course of the rays make the intervening protective layer of the atmosphere relatively thinner, but it also results in a greater intensity of illumination for any exposed area. The actual occurrence of this greater power is readily shown by measurement of the chemical activity of tropical sunlight as compared with that of colder latitudes; and, possibly as a result of such experiments, the idea has been prevalent that the harmful effect of sunlight is primarily due to the chemically active (actinic) rays. It was because of this idea that orange-colored underwear was tried on soldiers in the Philippines—an experiment that, as is well known, was unsuccessful. The other view, that it is the infra-red heat rays that are most powerful for harm, is held by Aron, and he advances experimental evidence in its support.

In the temperature regulation of a normal isothermic animal, two opposite tendencies are constantly closely balanced, heat production and absorption being neutralized by various devices for giving off heat. Should the production or absorption of heat reach a point beyond the compensating powers of the eliminating mechanism, or should this latter for any reason fail to act properly, heat is retained in the body, and a rise of temperature follows. Thus, if a dead animal, in which the heat dissipating devices are of course inactive, be hung in the warm sunlight, its superficial temperature will rise rapidly, and its deep, rectal temperature will rise also, but more slowly. A living animal, on the other hand, while absorbing heat at the same rate, will avoid its retention by increased elimination, with the result that the surface rise will be unaccompanied by the increase of deep-temperature. So, for instance, a dog in these circumstances may attain a surface temperature of over 104 F., while the rectal temperature will not have risen beyond 101 or 102. But its rapid respiration and lolling tongue will give evidence of the means taken to attain this result. If the dog be tracheotomized, so as to cut off this method of heat dissipation, rectal and subcutaneous temperature will both rise, and the animal will rapidly succumb. The magnitude of the heat elimination by vaporization of body secretions may be judged by the fact that rabbits in the sunlight were found to lose in this way from six to seven times as much weight as their sheltered fellows.

The most interesting results were obtained with apes. In these, the superficial temperature is normally ½ to 1 degree lower than the deep temperature, but on exposure, if only for a few minutes, to sunlight, this relation became reversed; if exposed long enough to cause death —which takes only a short time for these animals—the superficial temperature exceeded the deep by one-half a degree. Shaving the animals emphasized these differences, and shortened the fatal period markedly. If a current of air was kept in circulation over the exposed animal, however, it became capable of resisting the action of the sunlight indefinitely. Conclusive evidence against the supposed direct action of the actinic rays on the meninges was afforded by a simple experiment. An ape was encased in a double-wall box in such a way as to expose its head only to sunlight. Absolutely no harm resulted to the animal, although a superficial scalp temperature of 116.5 F. was attained.

The effect of sunlight on human beings was also studied. The normal human superficial temperature was found to range from 90 to 92 degrees F., but on exposure to sunlight this rose rapidly to 96 and 97 degrees. Farther exposure resulted not in farther rise, but in an actual drop of one-half or one degree, coinciding more or less closely with the appearance of perspiration. With muscular exertion, this fall was both greater and more rapid. In general, colored individuals did not attain as high superficial temperatures as did the whites, although from the greater absorptive powers of pigmented skin the reverse would be expected. This Aron believes to be due to the earlier onset of perspiration, possibly occasioned in part by the greater heat absorption. Visible perspiration, however, is less marked in colored than in white races, but as he points out, it is the invisible, vaporized perspiration that is effective in temperature reduction, and there is a distinct possibility of "economy of sweat" in races habitually requiring its protective influence. Aside from this, colored individuals have an advantage in their ability to go uncovered without danger of the painful solar dermatitis to which whites are so subject.

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[1] Berl. klin. Wchnschr., 1911, xlviii, 1115; Philippine Journal of Science, April, 1911.

The chief importance of Aron's work lies in its overthrow of the "actinic theory" of solar action. It is obvious that this more correct knowledge of the effect of the sun's rays makes possible the adoption of rational means of protection against them, and so affords an additional step toward increasing the habitability of the tropics for races of northern origin.

ORGANIC MATTER IN EXPIRED AIR

Most of us are aware by experience of the acute discomfort that may be caused by continued reinspiration of expired air. And the assurance of experimenters in this field that this is mainly the result of the unduly high temperature and moisture content of the air has scarcely seemed adequate to explain a phenomenon so pronounced. Indeed, aside from the testimony of everyday experience, the evidence as to the toxicity of impure air is itself of a most contradictory character. Thus, while Hammond, Brown-Séquard and d'Arsonval, and Davis secured results pointing unmistakably toward such toxic action, a considerable number of other observers, some of them duplicating the methods of Brown-Séquard and his fellow workers, have come to the opposite conclusion. It has been shown with practical certainty that air expired during normal quiet respiration is almost wholly free from microorganisms, so that in the absence of droplet infection any immediately harmful effects of impure air can scarcely be ascribed to bacterial contamination; and with the failure to demonstrate other impurities, the assumption that it is entirely the moisture and temperature of expired air that produce discomfort, has reached wide-spread acceptation.

In view of this conclusion, much interest attaches to recent work by Rosenau and Amoss,[1] in which they have apparently found in used air, by means of the anaphylactic reaction, minute quantities of organic matter. Their method was to collect the condensed vapors from human breath, to inject these into guinea-pigs, and after a suitable interval, to reinject these animals with small quantities of human serum. In all, ninety-nine animals were so tested in twenty-five different experiments, and of these twenty-six gave definite evidence of an anaphylactic reaction. The experiments were carefully controlled bacteriologically. Unfortunately no description of the methods followed in collecting the air, beyond diagrams of the apparatus used, is given, and there is a possible doubt as to the freedom of the condensed vapors from contamination with material mechanically carried over. It is true that as a control on this possibility, a number of guinea-pigs were tested similarly with human saliva, with negative results; but it is difficult to understand why saliva, which would apparently be saturated with air and whatever impurities might be in the air, should fail to give the same reaction as the condensed vapors.

While it would seem that further work might be desirable to establish beyond doubt the presence of organic matter in expired air, it is evident that the results just presented, if so confirmed, will be of marked interest and value. For although no evidence has been adduced as to the toxic character of the organic matter, the mere demonstration of its presence is a marked advance on our present knowledge of the action of impure air. It would seem also, as Rosenau and Amoss point out, to clear up the problem of the anaphylactic reaction sometimes observed after the first injection of foreign serum, particularly diphtheria antitoxin. And finally, it would serve as an instance of a phenomenon hitherto wholly unsuspected—the volatilization, or gaseous solution, of a substance of the complex composition and high molecular weight of the proteins.

THE CHARGE AGAINST DR. WILEY

III.—THE DENVER MEETING

While the decision of the President disposes of the charges and completely vindicates Dr. Wiley, the evidence presented before the congressional committee is so interesting and illuminating on other subjects that we continue to present to our readers extracts from this testimony.

This week, these extracts relate to the meeting of the Association of State and National Food and Dairy Departments in Denver, in 1909. At the previous meeting, at Mackinac Island, in 1908, resolutions had been adopted deploring the failure of the Secretary of Agriculture to cooperate with the state food departments in the development of uniform standards and the enforcement of pure food laws. At the same meeting, the retiring president, Prof. E. F. Ladd of North Dakota, in his presidential address, referred to the Remsen board as a "specially constituted board of doubtful constitutionality," standing between Dr. Wiley and "the interests." He emphasized the need of uniform standards for the proper enforcement of state and national food laws and deplored the lack of cooperation between the state authorities and the Department of Agriculture. Furthermore, a few weeks before the Denver meeting, the American Medical Association had adopted resolutions urging Congress to amend the Food and Drugs Act so as to prohibit the use of benzoate of soda as a preservative.

The Denver meeting was selected by the reactionaries and the manufacturers of adulterated food products as an opportunity to counteract the rapidly growing sentiment against the use of preservatives in foods. The testimony shows, what has long been popular knowledge, that every effort was made by the Secretary and by many employees of the Department of Agriculture to control the meeting. It should have been a dignified gathering of representative scientific men, deliberating on ways and means of enforcing the pure food laws for the protection of the people. It degenerated into a semipolitical

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[1] Jour. of Med. Res., 1911, xxv, 35.

Donnybrook fair, in which any means were used to secure and to retain votes. Solicitor McCabe's testimony shows that he was not only present at the head of the delegation from the Department of Agriculture, but that, several weeks before the meeting, he went West to round up as many votes as possible to back up the referee board and to discredit Dr. Wiley. McCabe says, "I interviewed every man I met that would probably come to the convention and I asked every man of that kind I met to uphold the department when he got there." The Remsen board, which had been conveniently sent to California, stopped at Denver on the way East, and so was present at the meeting. Professor Remsen says that the board was "requested," and not "directed," to attend the Denver meeting, but Secretary Wilson's formal letter of Aug. 6, 1909, sounds strangely like an order. Professor Remsen says in his letter of June 30, 1909, that the board is "anxious . . . to get things on a solid, scientific, common-sense basis." This was a highly commendable attitude on the part of the Referee Board, but if the question was to be settled on a scientific basis, where was the necessity of McCabe's electioneering activities? When have scientific men settled doubtful questions by popular vote and by political methods rather than by carefully considered evidence?

It also seemed odd at the time, and even at this late day it reads strangely, that, in spite of the presence at this meeting of scientific men, of the Secretary of Agriculture, a member of the official family of the President of the United States, of the entire Referee Board, of several employees of the Department of Agriculture, to say nothing of swarms of lobbyists and agents of borax companies and catsup manufacturers—in spite of all this assistance for the establishment of a scientific truth, benzoate of soda was "vindicated" by the vote of nineteen states to fourteen states, with three not voting. Rather a barren victory for a "scientific proposition."

The Denver meeting has passed into history. Some of those who attended this meeting and participated in its deliberations doubtless thought, when the meeting adjourned, that the benzoate question was settled and would return no more to annoy them. But, alas, two years later, all the details of this meeting and of the "scientific" way in which this question was settled, are brought out before a congressional committee. Nor is this all. Unless the leaders of the Democratic majority in the Lower House are blind to a great opportunity to act for the public good, next winter will see the same question again ventilated on the floor of Congress. *Hæc fabula docet* that a question is never settled until it is settled right.

IV.—THE CASE OF DR. ROBISON

Probably the most incredible single act disclosed by the hearing before the congressional committee was the treatment of Dr. Robison of Michigan by the Secretary of Agriculture. Dr. Robison, formerly State Chemist for Michigan, was duly appointed on a per-diem basis as a civil-service employee of the United States Department of Agriculture in 1907. In other words, he was not permanently employed, but worked when called on and was paid for the time he worked. In 1909, he went to the Denver meeting of the Association of State and National Food and Dairy Departments as one of the representatives of his state. He received no pay from the Department of Agriculture for his expenses. He was not, at that time, drawing any salary from the federal government. He attended as a scientific man, representing a state government, and presumably free to hold any opinion on any question which might come before the meeting. He was appointed by the president of the Association of State and National Food and Dairy Departments as the chairman of a committee of eleven state food chemists to prepare a report on benzoate of soda. On this committee he represented the state of Michigan and not the Department of Agriculture. This committee prepared a report which "respectfully suggests to the President of the United States and the honorable Secretary of Agriculture to institute investigations along some such broader lines as indicated above." This is one of the offenses for which Dr. Robison was summarily discharged.

Dr. Robison's second offense was that he did not vote for the candidate for president of the association favored by Secretary Wilson. On this point, Dr. Robison says (letter to Secretary Wilson, Aug. 4, 1911): "My own state had a candidate for the same position, and inasmuch as I did not represent your department or draw either salary or expenses from it, I felt it my duty to support the candidate from my own state."

The third and apparently the most serious offense: Dr. Robison was summoned as a witness in the Indiana case. He was not at this time drawing a salary from the United States government. His expenses were paid by the Indiana State Board of Health. He was paid nothing for his time. He says, "I testified according to the truth, as I understood it to be and had found it from my own investigations and according to my oath, and without any regard in any capacity to any other policy." Secretary Wilson said: "You appeared . . . in opposition to the policies of the administration with regard to the reports of the Referee Board on benzoate of soda and the report of the three secretaries with regard to it."

Secretary Wilson, explaining his summary discharge of Dr. Robison, said: "I do not propose to have subordinates in my department going off on tangents that are against the decisions of the three secretaries and myself, and all that, after we have gone to the expense of hiring such noted experts and scientists as we did to make up that Referee Board. I propose that gentlemen will work in line or keep still about it."

In such ways and by such methods, has the Department of Agriculture sought to enforce its opinions regarding benzoate of soda. We reproduce (pages 1071-1072) practically all of Dr. Robison's testimony since we believe it will prove instructive and interesting.

Current Comment

DR. WILEY EXONERATED

President Taft has exonerated Dr. Wiley of the charge preferred against him. In doing so, he has given official voice to the verdict already rendered by the American press and people. If the attack against Dr. Wiley were a mere personal fight, The Journal could allow the matter to rest here; but it was a principle, not a man, that was at stake. Dr. Wiley's enemies are opposed to him because he represents a principle—that of protection to the consumer. They would be equally antagonistic to any other individual holding the same position and actuated by the same ideas. For this reason we continue to publish the testimony that was given before the congressional committee. The evidence that was given there is of value because, for an all-too-brief space, the curtain was partly drawn aside and the pernicious activity of those interests that are arrayed against the public health was disclosed. Of the venomous and harassing tactics of McCabe and the sycophantic attitude of Dunlap in the carefully laid plot to depose Dr. Wiley, the President says nothing—at present. He does indeed hint that the demoralized condition of the Department of Agriculture will call for executive action: "The broader issues raised by the investigation, which form a much weightier relation than this one to the general efficiency of the department, may require much more radical action than the question I have considered and decided." If by these words President Taft means that he will, at the earliest convenient opportunity, sever the connection of McCabe and Dunlap with the government, he will find that he is merely expressing the opinion of the American people as to what should be done in this matter. Meanwhile, congratulations are due to the President on the wisdom of his decision, to Dr. Wiley, on being exonerated from the malicious and unfounded charge, and to the people of the United States, because they still have Dr. Wiley to stand between them and the food adulterators.

ALBRECHT KOSSEL

The series of lectures which is supported at Johns Hopkins by the endowment of the late Dr. Christian Herter, will this year be given by Prof. Albrecht Kossel, professor of physiologic chemistry at the University of Heidelberg. In 1910 Professor Kossel was awarded the Nobel prize in medicine in recognition of his researches on the composition of the constituents of the nuclei of cells, especially on the nucleins and their components, a summary of which is given in his address on "Die chemische Beschaffenheit des Zellkerns,"[1] delivered at the time of the award of this prize. Kossel's studies are of fundamental importance in biologic chemistry, and the award of the highest honor in medicine was richly deserved and universally approved, although as yet the results of his work have not found direct application in the practice of medicine. He had already made extensive and productive investigations into the composition of the proteins at the time when Emil Fischer, turning aside from his triumphs in the chemistry of the purins and of the carbohydrates, introduced new methods for the isolation of the constituents of the protein molecule and with swift strides dominated this field. While Fischer's work added especially to our knowledge of the mono-amino-acids of proteins, Kossel placed on a firm footing the study of the diamino-acids, which occur in especially large proportions in the nuclear proteins of germinating cells. The simplest proteins known, the protamins, consist chiefly of the diamino-acids, and so prominent and constant a part of all proteins is formed by one of these diamino-acids, arginin, that Kossel advanced the hypothesis of an arginin nucleus for all protein molecules. With his students Kossel has also made extensive investigations on the non-protein elements of nuclear material, namely, the purins, the pyrimidins and the carbohydrate radicals. To the many American students in Heidelberg Professor Kossel is known as a most interesting and lucid lecturer on a difficult topic, and he will find in America many old pupils not only in the science faculties, but also among practicing physicians.

SECTARIAN LICENSING BOARDS—AN OBJECT-LESSON IN PENNSYLVANIA

It has been repeatedly asserted that higher standards of medical licensure will not be uniformly effective so long as the enforcement of such standards depends on different boards representing and favoring different medical sects. That such an arrangement provides makeshifts whereby unfit candidates are enabled to secure licenses has long been known; Pennsylvania has demonstrated this very effectually. In that state responsibility for the enforcement of the medical practice act was parceled out to three separate boards, regular, homeopathic and eclectic. As may be noted in the report of the last examination, published this week,[1] out of forty-one candidates examined by the eclectic board only seven were graduates of eclectic colleges and two held diplomas from a nondescript institution, while thirty-two, or 78 per cent., were graduates of so-called regular medical colleges! Of these thirty-two, it also should be noted, twenty-five were graduates of a single medical school, rated in Class C by the Council on Medical Education — the Maryland Medical College of Baltimore. Further, official reports show that during the last three and a half years only seventeen graduates of eclectic colleges have been examined by the Eclectic Board of Pennsylvania and every one of these seventeen passed and received a license to practice medicine; during the same period, however, this eclectic board examined 117 graduates of regular and homeopathic colleges. Incidentally, as might be expected, these 117 came chiefly from notoriously low-grade institutions — and only seven failed! Happily, however, Pennsylvania has adopted a new medical practice act, providing for a single board of medical examiners, which will become effective the first of next year. If this practice act is properly enforced it will put a stop to such makeshifts in the licensing of physicians as have been reported from Pennsylvania for several years past. In this day of scientific medicine, there is no excuse for laws which place the responsibility for their enforcement in the hands of from two to four special and avowedly prejudiced boards. The people of Pennsylvania are certainly to be congratulated on the change soon to take place in their state, a change which comes none too soon.

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[1] Kossel: Munchen. med. Wchnschr., 1911, lviii, 65.

[1] Page 1077, this issue.

Medical News

ILLINOIS

Personal.—Dr. Sidney D. Wilgus, superintendent of the Elgin State Hospital, has been appointed superintendent of the Kankakee State Hospital, vice Dr. Frank P. Norbury, appointed a member of the State Board of Administration to succeed Dr. James L. Greene, Springfield, resigned, to take charge of the Arkansas State Hospital, Little Rock.——Dr. Emerson M. Brewer, Rantoul, local surgeon, has been promoted to district surgeon for the Illinois Central system.——Dr. L. M. Griffin has been appointed local surgeon at Polo for the Illinois Central system.——Dr. Wallace Blanchard, Chicago, has returned from Europe.

INDIANA

State Society to Have Banquet.—For the first time in twenty-two years the Indiana Medical Association will have a banquet at its annual meeting which is to be held in Indianapolis, September 28 and 29. On the days preceding and following the meeting, clinics will be held at the city hospital.

New City Hospital.—A committee of physicians of Indianapolis, consisting of Drs. Samuel E. Earp, J. Rilus Eastman and James H. Ford, appointed by the board of public works, have prepared specifications for a new city hospital, with accommodation for 500 patients. The plans follow closely those of the Harvard Hospital.

Personal.—Dr. A. P. Schier, Evansville, has been appointed first assistant physician in the Indiana Southern Hospital for the Insane, vice Dr. John F. Glover, resigned.——Dr. John Medaris, Brookston, who has been seriously ill is reported to be improving.——Dr. John W. Ballard, Logansport, had a slight cerebral hemorrhage in his office, September 9.

Rules Regarding Communicable Diseases.—The Indianapolis Board of Health has adopted the following rules for medical inspectors in the city schools: Any child having a communicable disease shall be excluded from the school; all children of a household where there is diphtheria, scarlet fever or small-pox shall be excluded from school; all children of a household where there is whooping-cough, chicken-pox or mumps may attend school except the child having the disease; all children of a household where there is measles may attend school except the child having the disease and the child who has not had the disease. Six physicians have been added to the staff, making now a total force of twenty-six inspectors of public schools.

KENTUCKY

Money for Health Exhibit.—Dr. W. E. Grant, health officer of Louisville, will make application to the city for an appropriation of $3,000 for Louisville share toward the erection of a permanent building on the Kentucky State Fair Grounds for health exhibit. The State Board of Agriculture will, it is thought, also appropriate $3,000 toward the project.

Personal.—Dr. Louise B. Triggs, Lakeland, has been appointed physician to the female department of the Hopkinsville State Hospital.——Dr. Herbert Bronner, Louisville, was attacked in his office by an insane patient armed with a revolver, but fortunately escaped injury.——Dr. Nathan R. Simmons, health officer, Lexington, is ill at his home with rheumatism.

State Board Meeting.—*At the meeting* of the Kentucky State Board of Health held in Louisville, September 13, Dr. John G. South, Frankfort, was elected president. Dr. Joseph M. Mathews, Louisville, in nominating Dr. South stated that since the organization of the board the office of president had been held by older men, and he was in favor of recognizing the younger members of the board. Dr. William A. Quinn, Henderson, and Dr. Joseph M. Mathews, recent appointees, were sworn in as members of the board. Dr. Mathews' term had expired, and Dr. Quinn had forfeited his membership by being elected a member of the Henderson Board of Education, but on his resignation from this board, was reappointed a member of the State Board of Health.

LOUISIANA

Free Medicine Commission.—The mayor has appointed the following commission to administer the Sickles fund for the free distribution of medicine: Drs. Sara T. Mayo, William T. O'Reilly, Joseph A. Danna and Marion Souchon, Rev. J. C. Barr and Messrs. E. H. Singreen and A. B. Tippin. The fund now aggregates about $108,000, of which only the interest, which amounts to about $5,000 a year, can be used.

Brief of Work of State Board.—During the last fiscal year the work performed by the State Board of Health includes the tour of the health exhibit train through Louisiana and several other states, in the interest of sanitation and hygiene; the abolition of the public drinking-cup and towel; the appointment of commercial travelers as subsidiary inspectors; the regulation of barber shops; the adoption of model vital statistics; the registration of dairies; formulation of the *plan for distribution of antidiptheria serum for the poor*, and the adoption of a report covering the work of a year made on the condition of the waters of Bayou Teche.

MARYLAND

Baltimore

Herter Lectures.—The sixth course of lectures on the Herter foundation will be given October 4, 5 and 6, in the auditorium of the physiologic building of Johns Hopkins University, by Dr. Albrecht Kossel, professor of physiology, and director of the physiologic institute of the University of Heidelberg. The subjects of the lectures will be "Proteins" and "Metabolism." The lectures will be given at 4 o'clock, and physicians and students are cordially invited to attend.

Personal.—Dr. Harry Friedenwald arrived home from Palestine, September 12, and says that he does not intend to make his future home in Asia, but expects to remain in Baltimore.——Drs. Mary Sherwood and Lillian Welsh are attending the International Congress for the Study and Prevention of Infant Mortality, in Berlin.——Dr. Thomas R. Brown sailed for Europe, August 24.——Dr. F. Oehlecker, Hamburg, who is making a study of hospitals in the United States, visited Baltimore, September 8.

MINNESOTA

Personal.—Dr. Webber, Leech Lake, has been made physician at the San Juan Indian Agency, Shiprock, N. Mex., vice Dr. Lewis C. Day, transferred.——Dr. E. H. Bailey, St. Paul, has been appointed superintendent of the Wabasha County tuberculosis sanatorium.——Dr. John S. Holbrook has been reelected president, and Dr. William A. Beach treasurer of the board of education of Mankato.

MISSOURI

New Building at Sanatorium.—A new building has been completed at the State Sanatorium for Tuberculosis, Mt. Vernon, which will accommodate about seventy-five patients, thus doubling the capacity of the institution.

Personal.—Dr. James A. Waterman, Kansas City, formerly physician at the penitentiary, has been appointed superintendent of the Farmington State Hospital. Drs. William S. Hutton, Fornfelt, and John A. Tiller, Bloomfield, have been appointed assistant physicians at the same institution.

A Bnai Brith Sanitarium.—A canvass was commenced in St. Louis, September 15, to raise $75,000 as a building fund to erect a nonsectarian sanitarium at Hot Springs, Ark., under the auspices of Independent Order of Bnai Brith, a Jewish fraternal organization. The sanitarium will be for the benefit of dependent sufferers from rheumatism and blood diseases.

Medical Library Club Established.—A medical library is to be established in Kansas City, with rooms on the thirteenth floor of the Rialto Building. The greater number of the office rooms in the building will be occupied by physicians, and the owner has devoted the entire west wing on the thirteenth floor to space for the library, free of charge. The club now has sixty members, one of whom has promised to lend his own medical library. The membership is divided into three groups, and $2,000 has been already subscribed for the institution. The committee on organization consists of Drs. Edward H. Skinner, Arthur E. Hertzler, Jabez N. Jackson, Franklin E. Murphy, Harold P. Kuhn, William J. Frick, Richard L. Sutton, Howard Hill, Robert M. Schauffler and Herman E. Pearse.

St. Louis

College News.—Barnes University, according to an announcement made to the alumni at a banquet recently, is now free from debt. Dr. Charles H. Hughes renews his affiliation with the school and is president of the board of trustees.——Rumors of the absorption of the American Medical College and the College of Physicians and Surgeons have been revived.

Woman's Society for Pure Food.—A woman's movement has been started with the object of stamping out impure food products, following a meeting September 14 at which simple tests for detecting impure foodstuffs were demonstrated by Mr. Rhey McCord, manager of the pure food exhibit. Mrs. W. E. Fischel was elected chairman of the temporary organization, with instructions to submit plans for the permanent organization at a subsequent meeting.

Hospital Thief.—Several physicians have been robbed recently by a sneak thief who, declaring himself a country physician desirous of witnessing operations, would be given the freedom of the hospital and privilege of presence in the operating room. He then would leave the room before the operation was finished and pilfer money and valuables from the physicians' clothing. Physicians at the University, St. Anthony's and St. Mary's hospitals have been thus victimized.

Hospital Situation.—Mayor Kreismann has taken a hand in the hospital muddle and has promised that the hospital board shall receive $1,500 monthly additional for food for patients. The disclosures following an investigation by a committee of the House of Delegates aroused the people to a realization of the needs of the hospitals. The visiting staff system of treating patients has proved far superior to former methods. In addition to extra money for food, provision will be made at once for an adequate number of graduate nurses and for the instruction of student nurses at the City Hospital, and dietists will be employed at all institutions.

Upheaval Concerning Milk-Supply.—Newspapers, civic organizations and citizens have become agitated over the milk-supply owing to recent declarations by the State Food and Drug Commissioner that the milk-supply of St. Louis is the product of insanitary, ill-kept and filthy dairies in and around the city. The city chemist maintained that the city dairies were in good condition, but the investigation rather startled him by its disclosures, and he joined forces with the state commissioner for a general clean-up of the dairies. Thus far 328 gallons of formaldehyd milk have been destroyed, several dairies have been refused permission to sell milk to distributors and twenty-nine dairymen indicted for selling impure milk. In fining three of these offenders the court said the practice of selling impure milk was worse than murder; the other cases were continued. At the City Club on September 13, Dr. John Zahorsky, Mr. Bedal, an attorney, Mr. Lange, a milk dealer, and Dr. Max C. Starkloff, health commissioner, spoke on the subject. The result of these efforts for a pure milk-supply showed that little had been done because of legal complications and the crux of the situation was well stated by Mr. Bedal and Dr. Starkloff who declared that the only effective method of securing clean milk was to establish a system of licensing the dairies by the board of health, such license to be revokable by the board. The dairymen have successfully resisted previous efforts to establish this system. At present action against refractory dairymen can be had only by the tedious and utterly inadequate procedure of prosecution in the courts.

NEW MEXICO

Personal.—Dr. Lewis Clinton Day has been transferred from the position of physician to the San Juan Indian Agency, Shiprock, and has been made resident physician at the Haskell Indian Institute, Lawrence, Kan.

State Society Meeting.—The thirtieth annual meeting of the New Mexico Medical Society was held in Las Vegas, September 6-9. Roswell was selected as the next meeting place, and the following officers were elected: president, Robert L. Bradley, Roswell; vice-presidents, Drs. Le Roy S. Peters, Silver City; M. F. Marais, Las Vegas; James J. Shuler, Raton; secretary, Dr. Robert E. McBride, Las Cruces; treasurer, Dr. Frank E. Tull, Albuquerque; councilor, Dr. Edwin B. Shaw, Las Vegas; delegate to the American Medical Association, Dr. William R. Tipton, Las Vegas; alternate, Dr. Francis T. B. Fest, Las Vegas. During the session the Guadalupe County Medical Society and the Valencia Society were chartered.

NEW YORK

New Hospital.—A hospital was formally opened September 2, at Babylon. The building contains twenty-five ward beds and two private rooms and is well equipped.

Death-Rate in the State.—During July the total number of deaths in the state from all causes decreased by 438. The number of deaths of infants under 1 year was 2,590, while for July, 1910, it was 3,486. The percentage of lessened infant mortality appears to be greater in the cities than in the rural districts. Pneumonia and other respiratory diseases caused 864 deaths during July, 1911, while deaths from this cause for 1910 were 978. In July, 1911, pulmonary tuberculosis claimed 1,101 victims, 650 of whom died in Greater New York. The deaths from typhoid fever show an increase over those of the previous year. In July, 1910, there were 486 cases of typhoid fever reported, with 94 deaths, while in July, 1911, there were 641 cases with 125 deaths.

Regents to Require Full-Time Instructors.—At its last meeting the board of regents of the University of the State of New York amended its rule and now requires, that after Oct. 1, 1912, a medical college, in order to be registered in that state as maintaining a proper medical standard, must have at least six full-time salaried instructors, giving their full time to medical work; must have a graded course of four full years of college work in medicine, and must require for admission not less than the usual four years of academic or high school preparation, or its equivalent, in addition to the pre-academic or grammar school studies. This agrees with the definition of a medical college adopted in 1910 by the Council on Medical Education of the American Medical Association.

New York City

Work of the Season at Sea Breeze.—Junior Sea Breeze, the [illegible] for sick babies, conducted by the [illegible] the Condition of the Poor, closed [illegible] 7. The visiting nurses made 4,098 visits during the summer and instructed 1,321 mothers.

Two Physicians Have Septicemia.—Dr. Edward H. Quinn is in a very serious condition as a result of blood-poisoning contracted while operating on a ward patient in St. John's Hospital.——Dr. John A. Bodine, who was called in to operate on Dr. Quinn, developed septicemia the day following the operation. Dr. Bodine's condition has not been regarded as serious.

School Children Have Poor Teeth.—The first report of the School Dental Hygiene Council, which was appointed about a year ago to make an examination of school children's teeth, shows that about 60 per cent. of those so far examined have defective teeth. As a result of this investigation it is believed that there will be a regular system of dental inspection and clinics for the schools.

Inebriety Board Holds Meeting.—The recently-appointed Inebriety Board held its first business meeting September 12. The board has decided to call on the police to furnish data as to all arrests for intoxication after October 1. It was also decided to acquire land within 35 miles of New York City for a site for three hospital buildings, the cost of the site and buildings to be about $550,000.

Smoke Nuisance Abated.—New York is practically free from the smoke nuisance and this is due to the work of the Health Department in enforcing the amendment to the sanitary code which went into effect a little over a year ago. During this time 2,000 arrests have been made and $6,000 has been collected in fines. This result has been accomplished by compelling all who burn soft coal to use smoke consumers.

Cholera in New York City.—During 1911, steamers arriving from Italy brought cholera to New York City, the first case arriving on the *Carpathia*, June 7, and the last, up to the present time, on the *Koenig Albert*, August 17. So far forty-four cases have been stopped at quarantine. In the city only three cases were found. This is the first time since 1892 that the sanitary authorities have been called on to deal actively with Asiatic cholera.

Typhoid in the Bronx.—For the seven weeks previous to September 9, there were 180 cases of typhoid fever in the Bronx as against eighty for the same period of 1910. Since January 1 there have been twenty-two cases in that borough as against 178 for the corresponding time in 1910. The typhoid situation in the greater city has practically cleared up except in the Bronx. Up to the year ended September 9 there have been 1,898 cases in the greater city since January 1, as against 1,963 last year.

Harvey Society Lectures.—The Harvey Society has secured the following lecturers for the coming season: Prof. Walter B. Cannon, Harvard Medical School; Prof. R. H. Chittenden, Yale University; Dr. Simon Flexner, Rockefeller Institute; Prof. H. S. Jennings, John Hopkins University; Prof. Albrecht Kossel, University of Heidelberg; Prof. H. F. Osborn, Columbia University; Dr. James J. Putnam, Harvard Medical School; Prof. T. W. Richards, Harvard University; Prof. W. T. Sedgwick, Massachusetts Institute of Technology; Dr. William S. Thayer, Johns Hopkins Medical School, and Prof. Verworn, University of Bonn. The following lectures will be delivered during October: "Local Specific Therapy of Infections," by Dr. Simon Flexner, October 7; "The Chemical Structure of the Cell," by Prof. Albrecht Kossel, October 14; and "Anesthesia," by Prof. Verworn, October 28.

Personal.—Dr. Simon Flexner, director of the laboratories of the Rockefeller Institute of Medical Research, has been awarded the *Cameron Prize in Practical Therapeutics* by the University of Edinburgh. The award was made in recognition of Dr. Flexner's work in cerebrospinal meningitis and its treatment with antimeningitis serum. In accordance with custom Dr. Flexner has been invited to deliver an address at the University of Edinburgh some time during the coming academic year.——Drs. Henry W. Frauenthal and Charles L. Dana have returned from Europe.——The country home of Dr. Charles McBurney at Stockbridge, Mass., was robbed, September 13. The articles taken were mostly jewelry and the loss is estimated at $5,000.——Dr. Samuel J. Meltzer, president of the Rockefeller Institute for Medical Research, has been elected a member of the German Imperial Academy of Natural Sciences.

Buffalo

Cornerstone Laid.—The cornerstone of the New German Deaconess Hospital was laid with appropriate ceremony, September 10.

Crusade Against Milkmen.—The department of health has instituted a crusade against milkmen who sell milk which does not come up to the standard requirements, or in other words, is adulterated. After due notice, warrants were sworn against about fifty milkmen.

Personal.—Dr. Matthew D. Mann, Dr. Irving M. Snow and Dr. George A. Himmelsbach, have returned from Europe.——Dr. Burton T. Simpson, Dr. Maud J. Frye and Dr. Charles A. Bentz have gone abroad.——Dr. Otto R. Eichel has been appointed chief of the tuberculosis division of the Bureau of Vital Statistics.

PENNSYLVANIA

Tuberculosis Crusade.—The directors of the Pennsylvania Society for the Prevention of Tuberculosis, September 13, agreed to arrange for a state exhibit by means of which the unsanitary conditions of many houses will be shown. The exhibition will be given in a number of cities and towns in the state during the winter.

Inspection of School Children.—State Health Commissioner Dixon is preparing to make the medical inspection of school children authorized by the new school code. The inspections will be made in 785 school districts, which means that 250,000 children will receive the direct benefits of this important work. The inspectors will also make a thorough investigation of the sanitary conditions existing at the schools. They will be instructed to note the age and sex of the pupil, the condition of sight, hearing, respiration, skin, teeth, cervical glands, contagious diseases, pulmonary tuberculosis and deformities. In recording the deformities they will be classified as those of the spine, the chest and the extremities. Those of the extremities will be further described as congenital or acquired. Each eye will be tested separately, using Snellen's chart at 20 feet. The presence of blepharitis, conjunctivitis, iritis or trachoma or any affection of the cornea will be observed. Each ear will likewise be tested separately for accuracy of hearing by whispering at 20 feet. The presence of a discharge from either ear will be watched for and its nature observed. Defective teeth and nasal breathing will be noted. Enlargement of the cervical glands will be observed. With regard to nervous conditions the existence of chorea or epilepsy will be stated, and the general condition of nutrition. If indications of present or recent contagious disease are found, note will be made of the fact and the exclusion of the child and its brothers and sisters at once ordered. Under no circumstances will the medical inspector advise as to the selection of a physician or communicate with the family of a pupil personally with regard to the results of the examination, all reports to the family being made directly from the department. On receiving the reports at the central bureau in Harrisburg, the chief medical inspector and his assistants will go over them very carefully and letters will be written to the parents of children in whom physical defects have been found, calling attention to these defects and suggesting that the child be taken to the family physician for more detailed examination and treatment.

Philadelphia

Resignations.—Dr. Daniel W. Fetterolf has resigned as demonstrator of chemistry and toxicology in the University of Pennsylvania, to accept the position of acting assistant surgeon in the U. S. Army, with a permanent station in New York.——Dr. Howard T. Karsner has resigned as demonstrator of pathology in the same institution to accept the position of assistant professor of experimental pathology in Harvard University.——Dr. Borden S. Veeder, assistant demonstrator of pathology in the University of Pennsylvania, has resigned in order to accept the position of assistant in the department of pediatrics in Washington University, St. Louis.

Baby Hospitals Successful.—The Race Street Pier, which opened on June 15, with thirty-five beds and nursed back to life fully 500 babies during the summer, closed its season, September 15. The Wynnefield Babies' Hospital and the Chestnut Street Pier will probably remain open until October 1, when the most active baby-saving campaign that has ever been carried out in this city will terminate for another year. The following statistics show the reduction in infant mortality. The number of children under 2 years of age who died of summer complaint during June, July and August, 1910, was 1,258, while in the corresponding months of this year, only 924 died, *a reduction of 234, or 18.6 per cent.*

Dental Clinic Opens.—The free dental clinic for the treatment of school children's teeth opened September 15. It is on the seventh floor of city hall and is under the charge of Dr. P. B. McCullough. The plan this year is to have the dentists visit the schools, examine the pupils and make a note of those whose teeth need attention. This note will be given to the teacher to forward to the parents, with a recommendation that the child either be sent to the family dentist or to the city hall clinic. After a child's mouth has been put in good condition, he is given a tooth brush and a box of tooth powder and is instructed in the care of the teeth. Last year 2,561 patients were treated in the clinic.

Contagious Diseases Hidden.—A reduction in the mortality from most of the preventable diseases is noted for the first eight months of this year as compared with the same period of 1910, as follows: tuberculosis, 15 per cent.; typhoid fever, 23 per cent, and pneumonia, 12 per cent. This does not hold true with diphtheria and scarlet fever, however. Through the newspapers, Dr. Joseph S. Neff, director of public health and charities, has called attention to the continued prevalence of these diseases, and asks the public to cooperate with the health authorities in carrying out the instructions of physicians and health officers. He states that many persons, to avoid the necessary restrictions, do not send for a physician in order that the case may not be reported.

University Changes.—Announcement has been made of changes in the medical department of the University of Pennsylvania. A fuller course in toxicology is announced for the second year class, the second half of the term under the charge of Dr. John Marshall and his staff in the Hare laboratory. There will be also a department of physical therapy under the charge of Dr. R. Tait McKenzie. The changes in titles and duties in the teaching staff follow: Dr. Gwilym G. Davis assumes charge of orthopedic surgery in place of the late Dr. DeForest Willard; Dr. T. Turner Thomas becomes associate professor of applied anatomy; Dr. Alfred Stengel assumes the chair of medicine in place of Dr. David Edsall, resigned; Dr. M. Howard Fussell has been advanced to the chair of applied therapeutics, this department being created under the chair of medicine, in place of the position of professor of clinical medicine vacated by Dr. Alfred Stengel; Dr. George W. Norris is advanced to assistant professor in medicine; Drs. Ringer and Rose assume the duty of instructor and assistant instructor in physiological chemistry; Dr. Oscar H. Plant becomes demonstrator of pharmacology; Dr. R. M. Pearce has withdrawn from the chair of pathology and will confine his work to the chair of research medicine, and Dr. Allen J. Smith returns to the charge of the department of pathology, retaining at the same time the directorship of the laboratories of comparative pathology and tropical medicine.

UTAH

State Association Meeting.—The seventeenth annual meeting of the Utah State Medical Association will be held in Salt Lake City, October 4 and 5, under the presidency of Dr. Frederick W. Taylor, Provo. A banquet is to be given to the association by the Salt Lake County Medical Association, October 4. At the first session an address will be delivered by Dr. Joseph N. MacCormack, Bowling Green, Ky.

New Members of Faculty.—The new list of the faculty of the University of Salt Lake includes the following appointments and changes: Dr. Joseph Peterson, professor of psychology in the Brigham Young University, Provo, professor of psychology; Dr. Perry G. Snow, professor of anatomy; Dr. Ralph L. Byrnes, professor of bacteriology and pathology; and State Bacteriologist and Pathologist Dr. Charles T. Voorhies has been made acting dean of the school of medicine, and Dr. Henry A. Mattill has been promoted from assistant professor to associate professor of physiology and physiologic chemistry.

WASHINGTON

Personal.—Dr. John B. McNerthney, Tacoma, left for Europe, September 9.——Dr. John W. Mowell, Olympia, has been appointed chief physician of the state's commission on industrial insurance.——Dr. C. J. Brobeck has been appointed assistant health officer of Tacoma.——The board of education of Bellingham has declined to accept the resignation of Dr. William R. Gray as president.——Dr. James F. Cropp has been elected mayor of Walla Walla.

State Society Meeting.—At the twenty-second annual meeting of the Washington State Medical Association held in Spokane, September 5 to 7, the following officers were elected: president, Leon L. Love, Tacoma; president-elect, William C. Cox, Everett; vice-president, Dr. George N. McLoughlin, Seattle; secretary, Dr. Curtis H. Thomson, Seattle (reelected), and treasurer, Dr. Herbert E. Coe, Seattle. Tacoma was chosen as the place of meeting for 1912.

WEST VIRGINIA

Tri-County Society Meeting.—At the annual meeting of the Barbour-Randolph-Tucker County Medical Society, held in Elkins, September 5, the following officers were elected: president, Dr. Edmond J. Horgan, Jenningston; vice-presidents, Drs. Albert S. Bosworth, Elkins; E. Mendel Hamilton, Belington; secretary and treasurer, Dr. Ernest R. MacIntosh, Elkins; and censor, Dr. W. Hoddis Daniels, Elkins, reelected.

County Society Reorganized.—The physicians of Preston County met in Kingwood, August 23, reorganized and elected the following officers: president, Dr. Buckner F. Scott, Terra Alta; secretary and treasurer, Dr. A. G. DeFoe, Brandonville; and censors, Drs. Daniel J. Rudisill, Kingwood; Frank M. Fogle, Rowlesburg, and Dr. William F. Dailey, Terra Alta.

Antituberculosis Organization Chartered.—The Ohio County Anti-Tuberculosis League was chartered August 29, with offices in Wheeling. The league is given authority under the charter to own and transfer real property to the value of $50,000, and personal property to a similar amount, and to erect and maintain hospitals for the care of persons afflicted with tuberculosis. The incorporators are Drs. Harriet B. Jones, Eugenius A. Hildreth II, and William H. McLain, and Messrs. Jesse A. Bloch and Henry M. Russell.

WYOMING

State Society Meeting Indefinitely Postponed.—Dr. William H. Roberts, Sheridan, secretary of the Wyoming State Medical Society, announces that several unforeseen circumstances, including the failure of the Burlington system to complete its line to Thermopolis, have conspired to cause the indefinite postponement of the annual meeting of the society, which was scheduled to be held at Thermopolis, September 4 and 5.

GENERAL NEWS

Societies to Meet.—Among the society meetings that are to occur in September and October are the following:

Amer. Acad. of Ophthal. and Oto-Laryngol., Indianapolis, Sept. 25-27.
Amer. Assn. of Obstet. and Gynecol., Louisville, Ky., Sept. 26-28.
American Association of Railway Surgeons, Chicago, Oct. 18-20.
American Urological Association, Chicago, Sept. 26-27.
Assn. of Military Surgeons of United States, Milwaukee, Sept. 26-29.
Delaware State Medical Society, Lewes, Oct. 10.
Idaho State Medical Association, Boise, Oct. 11-13.
Indiana State Medical Association, Indianapolis, Sept. 28-29.
Kentucky State Medical Association, Paducah, Oct. 24-26.
Medical Assn. of the Southwest, Oklahoma City, Okla., Oct. 10-12.
Medical Society of Virginia, Richmond, Oct. 24-27.
Michigan State Medical Society, Detroit, Sept. 27-28.
Minnesota State Medical Association, St. Paul, Oct. 5-6.
Mississippi Valley Medical Association, Nashville, Tenn., Oct. 17-19.
Nevada State Medical Association, Reno, Oct. 10-12.
Pennsylvania State Medical Society, Harrisburg, Sept. 25-28.
Utah State Medical Association, Salt Lake City, Oct. 4-5.
Vermont State Medical Society, Burlington, Oct. 12-13.

FOREIGN NEWS

International Congress of Pathology at Turin, Italy.—This congress has been scheduled to meet at Turin, October 1 to 5, and extensive preparations have been made for the scientific work.

Tuberculosis Congress Postponed.—The postponement of the Seventh International Tuberculosis Congress at Rome, Italy, to April, 1912, meets with general approval on account of the prevailing dread of cholera in southern Europe. The congress was to have been held the last week of this month—September—and the work had already been well organized and numbers of important papers received.

Centennial of Christiania University.—The *Norsk Magazin for Lægevidenskaben* issues a souvenir volume, in honor of the centennial of the university at Christiania, reviewing the history of medicine in Norway during the last hundred years. It is profusely illustrated with views of old and new hospitals and asylums and portraits of the leading physicians, especially the members of the medical faculty. The work is from the pen of S. Laache, professor of internal medicine at the university.

The Zander Festschrift.—The tenth volume of the *Archiv für Orthopädie* is dedicated to Gustav Zander on the occasion of his seventy-fifth birthday. The first nine articles describe Zander's work and apparatus for medico-mechanical exercises and the opening of his institute at Stockholm, Sweden, in 1865 and of similar institutions on this model in other countries. The benefits of these mechanico-therapeutic exercises in the various internal infections are emphasized by different authors. From 1880 until recently Zander was docent of medical gymnastics at the university of Stockholm.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Sept. 9, 1911.

Reform of the Naval Medical Service

Considerable reforms have been introduced into the naval medical service, corresponding to those introduced some years ago into the army service. The rate of pay has been slightly increased for surgeons by about $180 per annum and in the higher grades proportionately. Officers are permitted to retire into private life at an earlier period than heretofore. After serving four years a naval surgeon may pass into the reserve, taking a gratuity of $2,500 and incurring no other liability than being called on to serve in time of war or emergency. This liability places no impediment in the way of private practice. But the most important reform is the establishment of a naval medical school at Greenwich. It is considered essential for the scientific development of the service that it shall possess a school of instruction and research in the vicinity of London, where it will be in close touch with the principal civil medical schools and with the army medical school at Millbank. It has therefore been decided to establish a naval medical school at the Royal Naval College, Greenwich, in close proximity to the Seamen's Hospital and the London School of Tropical Medicine. It will thus be in a position to carry out its educational and scientific work in close connection with these establishments. There are already at Greenwich excellent chemical and physical laboratories, and the additional laboratories required for medical research will be provided in the college buildings. The following new offices have been created as the nucleus of an instructional staff—a professor of bacteriology and clinical pathology, who will be a fleet surgeon with a special allowance of $750 a year, and a professor of hygiene under the same conditions. The latter will reside at the college and will be in charge of naval medical officers taking courses and for this duty will receive an extra allowance of $250. Certain alterations have been made in the regulations for the selection and examination of candidates for naval surgeons. The course of instruction after entry has been lengthened from four to six months. At the termination of the course there is an examination. An officer who fails to pass this is given a second trial and if he fails again his services are dispensed with. In future, postgraduate instruction of naval medical officers will consist of two distinct courses—a six months' course before advancement to staff surgeon and a second course for officers of not less than 14 years seniority.

The subjects of study and examination will be: (1) *Compulsory:* clinical medicine and surgery, operative surgery, anesthetics, ophthalmology, clinical pathology and hygiene. (2) *Optional:* bacteriology, throat, nose and ear diseases, and skiagraphy. The second course is designed for the purpose of affording to senior officers the opportunity of refreshing their general knowledge of surgery and medicine and familiarizing themselves with modern improvements. A small medical library of value not exceeding $50 will be supplied to each ship carrying a medical officer.

Acute Poliomyelitis Rendered Notifiable

The outbreak of acute poliomyelitis in this country, mentioned in a previous letter to The Journal, has caused the London County Council to declare this disease notifiable to the local health officers under a penalty of $10.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Sept. 8, 1911.

The Coming International Sanitary Conference

The International Sanitary Conference mentioned in a previous letter (The Journal, Aug. 5, 1911, p. 492) will meet at Paris beginning October 10, with a view to revising the articles of the conference of 1903 for the prevention of the epidemics of cholera or the plague. It will be composed of representatives from about forty states, instead of the twenty-three governments which took part in a similar conference held at Paris in 1903 which drew up the articles of the sanitary convention signed December 3 of the same year.

Agitation Among the Nurses

For some time there has been strong discontent among the male nurses, and a strike has even been declared in one of the insane asylums at Aix-en-Provence. The grievances of the nurses are to be found principally in the poorly prepared food and the unhygienic dormitories assigned to them. They also demand a discontinuance of the practice of setting aside of a portion of the salaries of probationary nurses in view of future retirement. The *Journal Officiel* recently published a very interesting report of the inspector-general of the administrative service of the ministry of the interior which disclosed the fact that in many asylums the nurses receive only $60 (300 francs) a year to start with, which may be raised to a maximum of $100 (500 francs) a year. This, as the inspector-general remarks in his report, is a smaller salary than is paid to farm hands. This low salary also explains the insufficient training of the nurses, the difficulty in recruiting the whole body, which, as Dr. Charron, director of the asylum at Dury-les-Amiens, says, is composed to a very large extent of a wandering, unstable element without interest in their work, without any professional pride, and often without even personal dignity, a class of outcasts—lazy, intemperate, and dissolute; discharged working-men or servants.

Encouraging Large Families

A departmental league of the fathers and mothers of large families has just been established at Troyes. The president has given out interesting information about the work to be undertaken and has disclosed the generous offer of Mr. G. Verbeckmoes, the proprietor of the working-men's houses at Clichy (on the Seine). He introduced into his contracts the following clause: "After a year of residence in the house, each occupant, paying less than $120 (600 francs) rent, will be allowed a rebate of a half term's rent each time that his wife is confined."

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Aug. 31, 1911.

Classical Courses in High School and College

Some water has been mingled with the wine of the hope which I expressed in my comments on the Kaiser's speech, in my last letter, regarding the appreciation of the classical course in our higher schools, according to an official statement of the North German *Allgemeine Zeitung.* In this communication attention is directed to the fact that the words of the Kaiser must not be regarded as of general application, but rather as intended only for the pupils of the first grade of the classical gymnasium at Cassel. In other words, it should be stated that the Emperor now, as formerly, adheres to his high estimate of the technical school education (*Realschulbildung*) in general. A contradiction, nevertheless, does exist between this subsequent explanation and the words of the Kaiser. It is explained, like most of the inconsistent statements which are found in the speeches of the Kaiser, by his impulsiveness in consequence of which he followed the thought of the moment without reference to his former assertions of its general relation.

That the danger, to which I have called attention, of a further depreciation of classical studies, especially the study of Greek in our gymnasiums, actually exists, is shown by a statement just published by the faculty board of the university of Giessen. This statement is as follows:

"In view of the recent repeatedly occurring efforts to abandon the study of Greek in classical gymnasiums or to materially restrict it, we declare that we must regard it as equivalent with the abandonment of the classical high-school course as a whole. While it is far from our purpose to attack the equal estimate put on the technical gymnasiums and the technical colleges in comparison with the classical gymnasia, we must still, as formerly, accord to the classical gymnasium a special importance in the preparation for all university studies, and recognize in any serious injury to such schools a grave danger for education in general. This is especially true for all important and broad subjects for which a thorough insight into the nature and connections of historical development form the foundation and necessary preliminary. We, therefore, hold it our duty to enter our protest, as early and as emphatically as possible against those injurious attempts.

"We furthermore protest against making the school responsible for the injury of our youth which we can only regard as the results of modern conditions of living, and we assert that exactly in reference to the struggle against these injurious consequences we regard any further letting down in the requirements of the schools as dangerous." This statement forms in a certain sense an answer to the publication in the North German *Allgemeine Zeitung.* If the faculties of other universities should express themselves in the same sense as that of Giessen, it is to be hoped that the authorities will thoroughly investigate the question of further school reform before the ideas which are now prevalent regarding a classical education are carried into effect.

Refusal of a Promotion

Dr. R. Geigel of Würzburg, professor extraordinary of internal medicine, has refused the title of regular professor, which has just been accorded to him. The motive of this unusual step is so far unknown; it is possible that the investigator who is now in his fifty-ninth year is offended at the fact that instead of his being appointed successor of Professor von Leube, as was formerly announced, Professor Gerhardt has been chosen as director of the medical clinic. Such a conception must be regarded as entirely unjustified, for Geigel has not done work of sufficient note to give him any claim to such an appointment.

An Alleged Prussian Epidemic Bureau

An item appeared in the daily press, a short time ago, according to which a committee had been appointed under the cooperation of the medical section of the department of the interior and the war department as well as the imperial health office, which should have for its aim the foundation of a central station for the investigation of and campaign against epidemic diseases. The active work of this central station was stated to consist mainly in testing preparations which promise to be of service in the campaigns against the most frequently occurring epidemic diseases. According to information given me from an authoritative source, the entire announcement is the product of the overheated fancy of a reporter; at least nothing is known of such a foundation by those who are in a position to know most about it.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Sept. 1, 1911.

Difficulties of Building the New Clinics

While the clinics of von Noorden and von Pirquet have been recently completed, and the first-named will be opened in a few days and the latter in October, the building of the remainder has suddenly become doubtful. The difficulty lies in the lack of money, both for building and for running the institutions. As has been explained in a previous letter, there is a certain corporate faction known as the "hospital fund" (Spitalsfonds), whose duty it is to provide hospital accommodations for needy patients. This "fund," though bankrupt for several years, is still in function because neither the municipality nor the local or central government acknowledge any responsibility for it, or for the existence of suitable hospital beds. Yet, the hospitals had to be kept running and the money required for this purpose was loaned to the famous bankrupt "fund"; a most amusing situation, were it not so sad. The conditions became unbearable at last and a cooperation of the famous fund with the three above-mentioned public forces brought about an arrangement by which the old hospital clinics should be transferred to the new General Hospital, and the funds necessary for this transfer should be obtained by the sale of real estate belonging to the old hospital. Thus the two gynecologic clinics, the clinic of von Noorden (medical), the pediatric and the rhino-laryngologic clinics were erected on a grand scale. The expenses of running are much higher than expected, also the building was much dearer than originally planned, and now the "fund" has no money for the necessary new clinics: two surgical, two medical, two dermatologic, one aural, two ophthalmologic clinics, one chemical and one pathologic-anatomic, besides a medicolegal institute. Already more than $4,000,000 have been expended and another $6,000,000 are wanted! The Spitalsfond has found out that it is not its duty to build any more clinics but that the ministry of education should do this; thus a deadlock has been produced. Meanwhile, the clinics remaining in the old hospital have made use of the space made vacant by the emigration of the four clinics now located in the new hospital, and the Spitalsfond asserts that they are not now in need of space for wards, and proposes to make the existing old wards over into laboratories, baths and lecture halls so that the necessity of new clinics could be done away with; for these expenses the funds are available. The news of the radical change of the old plan has caused much disappointment both in the public and among the profession, as well as in the teaching staff of the university. A conference between the mayor of Vienna, the representatives of the government and some banks has resulted in an arrangement by which sums would be furnished which would prevent this disgrace to the Vienna Medical School. But here again, the question is whether bureaucratic red-tape will not spoil this arrangement. The professors have taken the matter up and it is possible that serious consequences may follow if the new hospital should remain incomplete.

Marriages

William Seaman Bainbridge, M.D., New York City, to Miss June Ellen Wheeler of Yonkers, N. Y., at Grenheim, September 9.

Nathaniel Robert Mason, M.D., Boston, Mass., to Miss Eunice Ireland of Winchester, Mass., at North Conway, N. H., August 31.

Frank Caryl Totten, M.D., Morristown, S. D., to Miss Charlotte Louise Hutton of Sioux City, Ia., September 1.

Arthur William Stillians, M.D., Chicago, to Miss Therese Spitler of Vienna, Austria, in New York City, July 24.

James H. Kenyon, M.D., to Josephine S. Hemenway, M.D., both of New York City, at Glasgow, Mo., September 7.

Nathaniel M. Baskett, M.D., Moberly, Mo., to Miss Margaret Gore of Fulton, Mo., in London, Eng., August 26.

Upton Sharretts Reich, M.D., Bridgeport, Conn., to Miss Lillian H. Kessner, at Waterbury, Conn., August 30.

Fred McKemy Ruby, M.D., Union City, Ind., to Miss Ethelyn Marie Butcher, at Richmond, Ind., September 7.

Herbert Bancroft Priest, M.D., Groton, Mass., to Miss Edith Houghton of Littleton, Mass., September 6.

Gustav Leonard Kaufmann, M.D., Chicago, to Miss Muriel Gregory of Fredericton, N. B., Can., September 4.

George Luther Davenport, M.D., to Miss Eva Beulah Griffith, both of Chicago, September 12.

Harry Bailey Chalfant, M.D., Philadelphia, to Miss Elva Storey of Landenberg, Pa., July 27.

Edward G. Birge, M.D., Altoona, Pa., to Miss Edna Ebaugh, at Orangeville, Md., September 7.

Thomas Arneson, M.D., to Miss Mabel Chandler, both of Frederic, Wis., August 20.

John Frederick W. Rost, M.D., to Miss Adela Peine, both of Minier, Ill., June 14.

Deaths

Thomas Dwight, M.D. one of the foremost anatomists of America, and successor to Dr. Oliver Wendell Holmes as Parkman professor of anatomy in Harvard Medical School; died at his home in Nahant, Mass., September 8, aged 67. Dr. Dwight took both his academic and his medical course at Harvard, graduating from Harvard Medical School in 1867. After two years of study abroad, he returned to the United States, and commenced to practice in Boston, and became instructor in comparative anatomy at Harvard Medical School in 1872, and was at the same time lecturer on and professor of anatomy in Bowdoin College, Brunswick, Me. From 1874 to 1883 he was instructor in histology in his alma mater and for the last three years of that time also an instructor in topographical anatomy. In 1883 he was made Parkman professor of anatomy, and continued in this position until his death. From 1873 to 1878 Dr. Dwight was editor of the *Boston Medical Journal.* His society membership included the Massachusetts Medical Society, the Association of American Anatomists, of which he was once president, and the American Society of Naturalists. He contributed numerous papers to the literature of human and vertebrate anatomy, and also was author of a work on "Anatomy of the Head," which appeared in 1876, and "Description of Frozen Sections of a Child," which was published in 1881; and a monograph on "Variations of the Bones of the Hand and Foot," in 1907.

Frank E. Waxham, M.D. for many years well-known as a laryngologist and rhinologist of Chicago, but for several years a resident of Denver, Colo., died in Sugar City, September 4, from cerebral hemorrhage, aged 59. Dr. Waxham was a native of Laporte, Ind., and took his medical course in the Northwestern University from which he was graduated in 1878. He commenced practice in Chicago, and became rapidly prominent as a specialist on diseases of the throat and nose. In 1893, on account of his wife's health, he was obliged to move to Colorado. He settled in Denver where he was professor of medicine, clinical medicine, laryngology and rhinology, in the University of Colorado, Boulder. He was a member of the American Medical Association and the state medical societies of Illinois and Colorado. He was a member of the medical staff of St. Joseph's Hospital, Denver, laryngologist and rhinologist to the University Hospital, Central Free Dispensary, National Jewish Hospital, and Children's Hospital and consulting laryngologist and rhinologist to the Denver City and County Hospital.

William Flynn, M.D. Louisville (Ky.) Medical College, 1876; once president of the Grant County (Ind.) Medical Association, and a member of the faculty of Indiana Medical College for many years, and later emerit [illegible] ne in the Indiana University School of [illegible] died in his apartments in Marion, September 1, from cerebral hemorrhage, aged 59. At the funeral of Dr. Flynn, the active pallbearers were members of the profession of Grant County, and the county medical society, at a special meeting, adopted resolutions deploring its loss in the death of Dr. Flynn.

Maurice Clarke Dwight, M.D. Harvard Medical School, 1882; of Haverhill, Mass., a member and once vice-president of the Massachusetts Medical Society; for twenty-two years secretary of the Essex North District Medical Society; formerly a member of the Haverhill (Mass.) board of health and a member of the local pension board; formerly consulting physician to the Danvers State Hospital; surgeon and chief of staff of the Hale Hospital; and secretary and treasurer of the Haverhill Medical Club; died at Hathorne, Mass., September 7, aged 59.

George Halsey Peets, M.D. University of Pennsylvania, Philadelphia, 1860; of Fort Adams, Miss.; chief surgeon of brigade in the Confederate service throughout the Civil War; at one time representative in the legislature from Wilkinson County; died at his country home "The Valley," in the western part of Wilkinson County, May 4, from carcinoma of the rectum, aged 73.

Benjamin Edson, M.D. New York University, New York City, 1873; a member of the Medical Society of the State of New York, and ever since his graduation a practitioner of Brooklyn; physician to the Home for Destitute Children, and for several years principal of Public School No. 14; died at his home, September 6, from heart disease, aged 70.

William Monroe Burroughs, M.D. Medical College of the State of South Carolina, Charleston, 1859; of Pineville, Ala.; a member of the Medical Association of the State of Alabama; died in Nadawah, in October, 1910, from senile debility, aged 74.

Lewis Wheeler Rose, M.D. New York University, New York City, 1887; a member of the American Medical Association, and the New York State Pathological Society; once president of the Monroe County Medical Society; for two years surgeon to the New York State Soldiers' and Sailors' Home, Bath; from 1882 to 1898 physician to the State Industrial Home; a member of the surgical staff of the Rochester General Hospital; died at his home in Rochester, August 29, from heart disease, aged 45.

George Dana Towne, M.D. New York University, New York City, 1878; of Manchester, N. H.; a member of the American Medical Association, and once president of the Hillsboro County (N. H.) Medical Society, and secretary of the New Hampshire Surgical Club; for many years visiting surgeon to the Elliot Hospital, and a trustee of the State Normal School, Plymouth; died at his summer home in Dunbarton, N. H., September 11, from cerebral hemorrhage, aged 57.

Alfred W. Mitchell, M.D. Washington University, St. Louis, 1879; a member of the American Medical Association and local surgeon of the Frisco system at Humansville, Mo., a member of the legislature for two terms from Polk County; died suddenly, while working in his garden, September 4, from heart disease, aged 55.

Carroll M. Baggarly, M.D. University College of Medicine, Richmond, Va., 1901; a member of the American Medical Association; associate professor of ophthalmology in his alma mater, and medical director of the public schools of Richmond; died in the Virginia Hospital, Richmond, September 3, from typhoid fever, aged 38.

John E. Lockridge, M.D. Medical College of Virginia, Richmond, 1863; a Confederate veteran; for several years a member of the staff of the Indiana Asylum for the Deaf and Dumb, and a practitioner of Indianapolis; died at the home of his sister-in-law in Nevada, Ia., August 13, from senile debility, aged 81.

George Fairlamb Harris, M.D. University of Pennsylvania, Philadelphia, 1864; a member of the American Medical Association, and a veteran of the Civil War; for several years vice-president of the First National Bank of Bellefonte, Pa.; died at his home in that city, September 11, from heart disease, aged 68.

John Taylor Gilman Nichols, M.D. Harvard Medical School, 1859; of Cambridge, Mass.; a member of the American Medical Association; acting assistant surgeon in the Army during the Civil War; at one time visiting physician to the Cambridge Hospital; died at Little Boars Head, N. H., August 27, aged 74.

Leonidas Franklin Wilbur, M.D. Harvard Medical School, 1854; for half a century a member of the Ontario County (N. Y.) Medical Society; and for many years president of the board of trustees of the Honeoye Public Library Association; died at his home in Honeoye, September 2, aged 79.

Justin de Lisle, M.D., Jefferson Medical College, 1882; of Springfield, O.; a member of the American Medical Association; while pursuing investigations regarding a serum for the cure of syphilis at the Pasteur Institute, Paris, France; died August 1, from arteriosclerosis, aged 52.

Isaac Buckeridge, M.D. Hahnemann Medical College, 1883; a member of the Wisconsin State Medical Society, and for several years a member of the council and health officer of Beloit; died at his home, August 30, from hypertrophy of the liver, aged 61.

Lorenzo D. Hamblett, M.D. Eclectic Medical College of Maine, Lewiston, 1885; for more than fifty years a practitioner, and since 1871 a resident of Somersworth, N. H.; died at his cottage in York Beach, Me., August 24, aged 84.

Harland Edgar Beers, M.D. Willamette University, Salem, Ore., 1890; a member of the American Medical Association and one of the oldest practitioners of Sherman County, Ore., died at his home near Wasco, March 25, aged 42.

James C. Melville (license, Michigan, years of practice, 1900); assistant surgeon of volunteers during the Civil War, and for thirty-three years a practitioner of Grand Rapids, Mich.; died at his home, September 6, aged 71.

George Koenig (license, Neb., 1891) for more than forty years a practitioner of Richardson County; is said to have committed suicide August 18, by hanging himself from the limb of a tree while despondent, aged 72.

William S. Browne, M.D. Bennett Medical College, Chicago, 1875; formerly of Watseka, Ill.; a member of the Illinois State Medical Society; died at his home in Opolis, Kan., August 21, from cerebral hemorrhage, aged 67.

William T. Sherwood, M.D. University of Michigan, Ann Arbor, 1859; a retired practitioner of Ravenswood, Chicago; acting assistant surgeon in the Army during the Civil War; died at his home, September 1, aged 79.

Samuel P. Seese, M.D. University of Pennsylvania, Philadelphia, 1874; of wide reputation as a botanist and investigator of medicinal plants; died at his home in Lansdale, Pa., August 29, from heart disease, aged 60.

Edward Parrish Thatcher, M.D. University of Michigan Homeopathic College, Ann Arbor, 1881; for two terms coroner of Wayne County, N. Y.; died at his home in Newark, N. Y., September 1, aged 53.

Arthur Kipp, M.D. Kentucky School of Medicine, Louisville, Ky., 1903; for several years a practitioner of British Honduras; died at his home in Louisville, September 1, from diabetes, aged 29.

Johiel H. Bonebrake (license, Kan., 1901) of Lecompton; twice a member of the state legislature; a practitioner since 1860; died at the home of his daughter in Overbrook, Kan., January 13.

Walter Henry Maynard, M.D. New York University, New York City, 1898; of New York City; a specialist on diseases of the throat and nose; died suddenly at his home, September 2, aged 45.

Samuel R. Kreidler, M.D. Hahnemann Medical College, Chicago, 1873; for many years a practitioner of Red Oak, Iowa; died at his home on a ranch near Moorcroft, Wyo., August 19, aged 63.

Julius Adolph Stegmair, M.D. New York University, New York City, 1886; a member of the Medical Society of the State of New York; died at his home in New York City, April 4.

Robert N. C. Tate, M.D. New York University, New York City, 1849; a member of the State Medical Association of Texas; died at his home in Gonzales, September 4, aged 84.

James W. Rock, M.D. Eclectic Medical College of the City of New York, 1876; formerly of New York City; died at his home in Utica, N. Y., August 24, from nephritis, aged 64.

Paul Robert Baer, M.D. Marion-Sims College of Medicine, St. Louis, 1893; of St. Louis; died in Herrnhut, Saxony, Germany, August 31, from cerebral hemorrhage, aged 55.

James G. W. Entwistle, M.D. Albany (N. Y.) Medical College, 1883; formerly of Chicago; died at his home in Canton, Ill., September 1, from pernicious anemia, aged 69.

Hamilton Byron Griswold, M.D. University of Vermont, Burlington, 1886; a veteran of the Civil War; died at his home in New Milford, Conn., June 24, aged 64.

David Mitchell, M.D. Victoria College, Coburg, Ont., 1869; a pioneer practitioner of Olympia, Wash.; died at the Canyon Hotel, Yellowstone Park, Mont., August 30.

Jacob Weber, M.D. University of Pennsylvania, Philadelphia, 1858; of Philadelphia; died in Cape May, N. J., August 30, from heart disease, aged 86.

Phoebe Low, M.D. Eclectic Medical College of Pennsylvania, Philadelphia, 1872; died at her home in Liberty, N. Y., August 21, from cerebral hemorrhage, aged 73.

Silas Wright Frame, M.D. Bellevue Hospital Medical College, 1875; a veteran of the Civil War; died at his home in Belleville, N. Y., August 27, aged 69.

Henry L. Schilling, M.D. Tulane University, New Orleans, 1890; formerly of Magnolia, Miss.; died at his home in Hot Springs, Ark., September 2, aged 56.

A. Herbert Bayard, M.D. Albany (N. Y.) Medical College, 1889; health officer of Cornwall-on-the-Hudson, N. Y.; died at his home, August 31, aged 42.

William Harmon Miller, M.D. Jefferson Medical College, 1893; formerly of Rockport, Tex.; died at his home in San Antonio, August 29, aged 44.

Clarence N. Mitchell, M.D. Baltimore Medical College, 1902; of Lawrence, Mass.; died at the Cottage Hospital in that city, August 26, aged 31.

George David Greenslate, a practitioner since 1876; died at his home in Willmathsville, Mo., July 12, from carcinoma of the liver, aged 62.

George F. Chapman, M.D. University of Louisville (Ky.), 1890; died at his home in Centertown, Ky., recently from nephritis, aged 57.

Thompson M. Wells, M.D. Hahnemann Medical College, Philadelphia, 1875; died at his home in Bellaire, O., August 31, aged 58.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession.

THE CHARGE AGAINST DR. WILEY

Extracts from the Testimony Given Before the Congressional Committee

(Continued from page 997)

THE DENVER MEETING

[In August of 1909 the thirteenth annual convention of the State and National Food and Dairy Departments met in Denver. At the previous meeting, held at Mackinac Island, Mich., Aug. 4-6, 1908, the association had adopted resolutions expressing its regret that the cooperation of the Secretary of Agriculture in establishing standard for the enforcement of food laws, had been withdrawn. At the 1909 meeting in Denver strenuous efforts were made by the Secretary and his friends to control the convention, to prevent the passage of resolutions denouncing the findings of the Remsen Board, and to control the election of officers. The extracts from the testimony which follow show how the resources of the Department of Agriculture were used to secure the presence of as many adherents of Wilson and McCabe as possible and to influence the votes of as many of the delegates as could be swayed. The first extract is from Professor Remsen's testimony, and shows how Secretary Wilson arranged to have the Referee Board attend the Denver meeting and how its influence was used. Part of Professor Remsen's evidence is given below:]

DR. REMSEN'S TESTIMONY

Mr. Floyd. Did you attend the convention of State and National Dairy and Food Departments at Denver in 1909?

Dr. Remsen. Yes, sir; on the way back from California I stopped there.

Mr. Floyd. Did you attend on your own volition, or were you directed by the department to attend?

Dr. Remsen. I was not directed; I was requested.

Mr. Floyd. You were requested to attend?

Dr. Remsen. Yes.

Mr. Floyd. How long did you remain at Denver during that convention?

Dr. Remsen. Two or three days; I am not sure just exactly how long.

Mr. Floyd. What was the purpose of that convention, and what were the questions discussed there? Did they relate to pure foods?

Dr. Remsen. Well, I do not know much about the association. I do know that I was asked by the president of the association to give an address on the subject of the work of the referee board, I think, or at least it had reference to the benzoate question, and after finding I could stop there conveniently on the way from California and that the other members of the board could do the same, I accepted the invitation. The association discussed all sorts of questions pertaining to things of which I have no knowledge, but I do know that they took up this benzoate question in rather an active way, and I suppose it was felt by the Secretary that it was desirable to have some one there to explain what it all meant. They seemed to be going on the wrong track, so far as we could gather. They got some wrong impressions of the thing and the nature of the work, or what we were appointed for, or what we were doing, and it did seem wise not to let them go too far that way without some explanation from us, which we gave in a dignified way, I think I can safely say.

Mr. Floyd. And the expenses of yourself and the other members of the board for this trip to California and this trip to the convention in Denver were paid by the department?

Dr. Remsen. Yes. Of course the trip to the convention amounted to very little. That was simply stopping over.

Mr. Floyd. You state that you addressed the convention yourself. Did any of the other members of the board address the convention; and if so, who?

Dr. Remsen. Dr. Chittenden, Dr. Long, and Dr. Herter all addressed the convention, at the request of the president of the association, Mr. Emory.

Mr. Floyd. I will ask you to state if in the address you made before the convention on the question of benzoate of soda you made a defense of the use of benzoate of soda?

Dr. Remsen. No, sir.

Mr. Floyd. You just discussed the findings?

Dr. Remsen. I discussed the general method of procedure which we had followed. I have nothing to do with the use of benzoate of soda. We were not asked to decide whether it was a good thing to use or not, and we have never expressed ourselves upon that point.

Mr. Floyd. What was it, then, that you were asked to decide?

Dr. Remsen. Whether the use of benzoate of soda in small doses and in large doses is or is not injurious to the human system. That was the end of the inquiry so far as we were concerned.

. . . .

The Chairman. Your expenses at Denver were also paid by the Department of Agriculture?

Dr. Remsen. We went, as I said yesterday, to California for an important purpose, looking into the sulphuring process, and on our way back we stopped there. We did make a little effort to time our trip back so that we could attend that meeting, because we had been asked to give addresses. We were asked by the president of the association. We stayed there possibly three days. I am not sure whether it was two or three, but not more than three. The slight expense of the board during that period in the way of traveling expenses was paid by the——

The Chairman (interposing). You gave an address there?

Dr. Remsen. Yes.

The Chairman. And the purpose of that address was to explain and defend the report you had made to the Secretary of Agriculture?

Dr. Remsen. I did not defend the work. I didn't think that was my business. The report had been made. But I did do this. I explained, somewhat as I have explained to this committee yesterday, how the board came into existence, and very little else. I don't think that address was ever published. Then, I may say that after that the work of the board was attacked very violently by Dr. Reed of Cincinnati, which was most astonishing to me. After that attack I felt it my duty to respond, which I did in measured manner, and I didn't say anything I would not repeat. I will add that to what I said yesterday, because I made really two addresses there The other members of the board I think did not answer the attack. I think they were satisfied with my answer.

The Chairman. In making either one of those addresses did you go beyond the official work of your board and defend the use of benzoate of soda as a preservative of food?

Dr. Remsen. No, sir.

[Solicitor McCabe not only attended the Denver meeting at government expense and, as he naïvely says, "cast the vote for the Department," but also—as his evidence shows—made an earlier trip west, of which, at first, he could not remember any of the details. Under the cross-examination of Dr. Wiley's representative, Mr. McCabe was forced to admit that he went west to line up votes for the Department of Agriculture, "to support the referee board's decision on the benzoate of soda question, as against the decision of the Bureau of Chemistry on the same question." A part of his testimony follows:]

MR. MCCABE'S TESTIMONY

Mr. Floyd. Did you attend a meeting of the Association of State and National Dairy Departments of the United States at Denver in 1909?

Mr. McCabe. Yes, sir.

Mr. Floyd. Did you take any part in the discussion or proceedings there?

Mr. McCabe. Yes, sir.

Mr. Floyd. Was there any question raised in that convention in regard to the use of benzoate of soda as a preservative?

Mr. McCabe. There was.

Mr. Floyd. Did you take any part or participation in the discussion of that question?

Mr. McCabe. I did.

Mr. Floyd. On what side?

Mr. McCabe. In favor of the ruling of the department. I have always been on that side.

Mr. Floyd. In favor of the ruling of the department. What was the occasion of your attending that convention? Did you go there in your official capacity?

Mr. McCabe. I went there by direction of the Secretary of Agriculture. The occasion of my attending was this. That meeting in Denver was held in 1909. The meeting the year before had been held at Mackinac, in the State of Michigan. That was in 1908. At the Mackinac meeting they held a secret session of the association. Not only was it a secret session barred to the public, although they were public officers attending there at public expense, either national or state, but they had a secret ballot. Among the resolutions that they adopted, among the resolutions which were reported by the committee on resolutions, was one vilifying and abusing the Secretary of Agriculture and questioning his good faith I was not at that meeting.

Mr. Floyd. Can you produce that resolution in this connection?

Mr. McCabe. I will tell you about that. I will come to that point. There were four or five department people there. When the resolution was reported, they could not bear to remain and see their chief slaughtered. So they asked to be excused and went out, I suppose with their handkerchiefs to their eyes, and the resolutions were adopted; that is, some resolutions were adopted. There were some resolutions reported in the papers, and the resolutions which were reported in the papers virtually and practically accused the Secretary of misapplication of funds. And the Secretary of Agriculture wrote to the secretary of the association and asked him for a copy of the resolutions, and he wrote repeatedly, and he was never able to get them. So when the Denver meeting was coming on the Secretary said, "We will go out there and we will have an open meeting, and we will see what they have to say when I am there." And we went out.

Mr. Floyd. And you went in your official capacity?

Mr. McCabe. Yes.

Mr. Floyd. At the direction of the Secretary?

Mr. McCabe. I did.

Mr. Floyd. Did other members of the Department of Agriculture attend?

Mr. McCabe. Yes, sir. There were a number of employees of the Bureau of Chemistry and a number of the employees of the Bureau of Animal Industry—Dr. Bigelow, Dr. Wiley; I think Dr. Kebler was there, and Dr. Melvin and Dr. Rawl, of the Dairy Division, I think were there.

. . . .

Mr. Davis. Very well. You were asked about being present at the convention that was held in Denver?

Mr. McCabe. Yes.

Mr. Davis. When was that Denver convention held?

Mr. McCabe. Sometime in the summer of 1909.

Mr. Davis. Do you remember the month?

Mr. McCabe. I do not. It was either July or August.

Mr. Davis. It was August, I believe; I am so informed. You attended that in your capacity as a member of the Board of Food and Drug Inspection?

Mr. McCabe. I attended it because in my capacity as an employee of the Department of Agriculture I was directed by the Secretary to go there.

Mr. Davis. Do you know how you gained admission to the floor to participate in the voting or debates; was it as a member of the force of the Secretary of Agriculture, or as connected with the Bureau of Chemistry?

Mr. McCabe. As associated with the Secretary of Agriculture—with the Department of Agriculture.

Mr. Davis. And not in connection with the Bureau of Chemistry?

Mr. McCabe. I never considered that I have been connected with the Bureau of Chemistry.

Mr. Davis. You voted in that convention?

Mr McCabe. I did; that is, I cast the vote of the Department.

Mr. Davis. Who constituted the representatives of the department whose conclusion was expressed in the vote that you cast?

Mr. McCabe. I think all the representatives of the department who were there.

Mr. Davis. I take that for granted; but were they connected with one or another bureau or branch of the department?

Mr McCabe. Connected with different bureaus and branches.

Mr. Davis. Could you enumerate them?

Mr. McCabe. Well, there was the Secretary's office; there was the Bureau of Animal Industry; and there was the Bureau of Chemistry.

Mr. Davis. And there were how many—nine, were there not?

Mr. McCabe. Nine what?

Mr. Davis. Nine representatives of the department.

Mr. McCabe. There must have been more than that, because there were, I think, five members of the referee board and the Chief of the Bureau of Chemistry. I remember Dr. Bigelow was there, although I think he was attending the meeting of official agricultural chemists. There was Dr. Kebler, Dr. Melvin, and I think Dr. Dorsett was there. That is simply from recollection. I think, perhaps, Dr. Rawl of the Dairy Division was there. I was there.

Mr. Davis. Before you went to that convention you took a trip through the Northwest, did you not, in connection with it?

Mr. McCabe. No; not in connection with it.

Mr. Davis. When did you leave Washington to go to the convention?

Mr. McCabe. I don't know.

Mr. Davis. How many days before the convention?

Mr. McCabe. Several days.

Mr. Davis. Do you mind saying where you went?

Mr. McCabe. I went directly from Washington to Denver.

Mr. Davis. Before that, had you been out in the Northwest at all on this business?

Mr. McCabe. Not on this business.

Mr. Davis. You had not been out there?

Mr. McCabe. I could not answer positively from recollection. I think I had taken an official trip before that time.

Mr. Davis. Was it not almost immediately before that?

Mr. McCabe. How long before, I don't know.

Mr. Davis. I wish you would look that up.

Mr. McCabe. I will verify that and put it in my testimony.

Mr. Davis. Would you object to stating what that trip was about?

Mr. McCabe. I would, from memory, because it has been a good while ago, and I do not remember about it.

Mr. Davis. Will you be good enough to refresh your recollection?

Mr. McCabe. Yes.

Mr. Davis. You were traveling at the expense of the Agricultural Department?

Mr. McCabe. Yes; it was an official trip.

Mr. Davis. And during that official trip, is it not a fact that you interested yourself to interview various persons who would be in attendance at that Denver meeting?

Mr. McCabe. I think I did.

Mr. Davis. With a view to the question that would come up in reference to benzoate of soda?

Mr. McCabe. With a view of upholding a ruling of the department.

Mr. Davis. Do you remember how many persons you interviewed during that official trip who afterwards appeared at Denver and voted to support the benzoate of soda decision?

Mr. McCabe. No.

Mr. Davis. Could you approximate the number?

Mr. McCabe. I do not know that I could. I would say possibly three or four or five.

Mr. Davis. In refreshing your recollection about the other matter, you can refresh your recollection about that and recall, if you can, the itinerary of your trip?

Mr. McCabe. Yes.

Mr. Davis. Be good enough to tell us who the persons were that you interviewed on that trip.

Mr. McCabe. I can tell you now that I interviewed every man I met that would probably come to the convention, and I asked every man of that kind I met to uphold the department when he got there.

Mr. Davis. And that you did while traveling on an official trip at the expense of the Department?

Mr. McCabe. Yes.

Mr. Davis. The exact object of that trip was what? Do you now remember?

Mr. McCabe. No; nor do I think it is remarkable that I do not remember.

Mr. Davis. I do not make any suggestion that it is remarkable.

Mr. Higgins. What is the purpose of this examination?

Mr. Davis. It is completed, Mr. Higgins. The purpose of it, I can say without the slightest reservation, is to show that the Solicitor for the Department of Agriculture was on a trip at the government's expense, if not for the purpose; with the effect of marshaling forces that were to be at the Denver convention to support the referee board's decision on the benzoate of soda question as against the decision of the Bureau of Chemistry on the same question.

Mr. Higgins. And he has stated that he did that at the request of his chief.

Mr. Davis. No; he has not stated that he did that at the request of his chief.

Mr. Higgins. I so understand—that he attended the Denver convention at the request of the Secretary of Agriculture.

Mr. Davis. Yes: but this was before this trip about which I have been inquiring.

Mr. Higgins. I would suggest that inasmuch as he said that, that it might be more pertinent to examine the Secretary of Agriculture when he comes on the stand.

Mr. Floyd. I think you misunderstand Mr. McCabe. He stated that it is true that he went to the Denver convention at the request of the Secretary of Agriculture; but Mr. Davis has been asking him about another trip he made.

Mr. Higgins. He stated, as I understand, that before that time he took an official trip, which, I presume, presupposes that the Secretary of Agriculture either directed him to make that trip or agreed that he should take it.

Mr. Floyd. He has been asked to refresh his memory about the details of that trip.

Mr. McCabe. I can state now with the greatest positiveness that if I met anybody on that trip, and I know I did meet some, who were entitled to go to that convention, that I asked them to go and when they got there to support the ruling of the Department of Agriculture; that I considered the investigation that had been made by the referee board and its adoption of the three Secretaries settled the question, and I hoped that we would not have a repetition of what occurred at Mackinac. I further argued with the men I met that when we got there we ought to have an open meeting and settle the question, and I worked, and worked hard, along that line, and I am very proud of it.

Mr. Higgins. At that time there was a great deal of contention among the food manufacturers, or certain food manufacturers, as to the use or harmful effect of benzoate of soda.

Mr. McCabe. From the moment the referee board was created there was a newspaper war carried on against that board——

Mr. Higgins. And is now, is there not?

Mr. McCabe. Well, the papers speak for themselves. There was a correspondent here in Washington almost from the time that the board was created who sent out any number of copies of articles reproduced by a typewritten process abusing the Secretary, abusing the referee board, impugning the motives of the Secretary for creating the board, attacking the personnel of the referee board; and those articles have continued to be sent out up to within certainly a very few days. The fight on benzoate of soda, so far as the manufacturer is concerned, was purely a trade fight. It was a matter of advertising. And when we got to Denver both sides were drawn up—the people who were opposed to benzoate of soda and opposed to the methods of the board and favored the findings of the Bureau of Chemistry.

Mr. Higgins. What people were principally opposed?

Mr. McCabe. The people who appeared there were the Heinz people, their advertising people, the people who have since formed an association of which Heinz & Co. and other manufacturers are members.

Mr. Higgins. What is the name of that?

Mr. McCabe. It is called the Association for the Promotion of Purity in Food Products.

Mr. Higgins. And where located?

Mr. McCabe. I think possibly their office is in New York, although I do not know. A representative of the national food magazine, *What to Eat*, the editor or proprietor of that paper, it was—I have never had any experience in attending many political conventions, but it was a stand-up and knock-down fight from the minute we got there until it was over, with both sides trying to control just as many delegates as they possibly could.

Mr. Floyd. How did the vote stand on the final vote?

Mr. McCabe. The vote on benzoate of soda, on the division, on the resolution indorsing the findings of the referee board—I do not know how it stood. The fight was continued—each side had a slate of officers. When the meeting was held at Mackinac behind closed doors, the result was that resolutions were published accusing and condemning the Secretary of Agriculture; and there was just one gentleman who had red blood enough to get up and say that he thought it was wrong for the Secretary of Agriculture to be condemned without a hearing.

Mr. Floyd. What I wanted to know was how the vote stood——

Mr. McCabe. That man was Mr. Flanders, of New York. I am coming to an answer to your question. I do not know how the votes stood on the question of benzoate of soda, but the result was an indorsement of the ruling of the department. We supported Mr. Flanders for president, and he won by one vote. The State of Georgia switched after the vote on president, I think—yes; I think it was the State of Georgia—and the rest of the other slate was elected.

Mr. Floyd. Now, right in that connection, before we get away from it, you stated that quite a number of the employees of the Agricultural Department and its different bureaus were there in addition to yourself.

Mr. McCabe. Yes.

Mr. Floyd. To get to the item of expense, were the expenses of these various employees paid by the Department?

Mr. McCabe. Yes; they always have been at every meeting.

[Dr. Robison, a chemist, attended the Denver meeting as a representative of the State of Michigan and voted for the commissioner of that state for president. He was also chairman of a committee on benzoate of soda. Later he testified for the State of Indiana in the Indianapolis case. For these offenses he was dismissed by Secretary Wilson.]

DR. ROBISON'S TESTIMONY

Mr. Moss. State your full name.

Dr. Robison. Dr. Floyd W. Robison.

Mr. Moss. What is your occupation or for what have you been fitted by occupation.

Dr. Robison. I am a chemist by occupation.

Mr. Moss. What official positions have you held?

Dr. Robison. I have held the official position of state chemist for the Michigan State Experiment Station and the position of state analyst of the Michigan State dairy and food department, and the position of a per diem employee, food and drug inspection, in the United States Department of Agriculture.

Mr. Moss. How did you obtain that employment in the United States Department of Agriculture?

Dr. Robison. Shortly following the passage of the national food and drugs act, by virtue of an examination taken under the Civil Service Commission, being duly certified by that commission and subsequently appointed over the official signature of the Secretary of the United States Department of Agriculture.

Mr. Moss Then you were a civil-service employee?

Mr Robison. Yes.

Mr. Moss. When did your connection with the Department of Agriculture begin?

Mr. Robison. I have the original appointment here which will answer that question.

Mr. Moss. You can refer to that.

Dr. Robison. My probationary appointment for a period of six months was made on May 1, 1907, which was followed on March 14, 1908, by a permanent appointment which was to take effect on November 9 the year previous, 1907.

Mr. Moss. When did your connection with the Agricultural Department terminate, if it has terminated?

Dr. Robison. My connection terminated on June 30, 1911.

Mr. Moss. How did it terminate—by resignation?

Dr. Robison. No, sir.

Mr. Moss. How?

Dr. Robison. By virtue of a letter of dismissal from the Secretary of Agriculture.

Mr. Moss. Were there any charges filed against you?

Dr. Robison. None.

Mr. Moss. Have you the letter of dismissal with you?

Dr. Robison. I have.

Mr. Moss. Please read it to the committee, so it will be a part of the record.

Dr. Robison (reading):

UNITED STATES DEPARTMENT OF AGRICULTURE,
OFFICE OF THE SECRETARY,

Washington, D. C., June 26, 1911.

Mr. Floyd W. Robison, of the State of Michigan, a food and drug inspection chemist, having a salary at the rate of $7 per diem when actually employed on the miscellaneous roll, paid from the fund appropriated for general expenses, Bureau of Chemistry, food and drugs act, salaries out of Washington in the Bureau of Chemistry, of the United States Department of Agriculture, is hereby removed from that position and his name ordered to be dropped from the rolls of the Department of Agriculture at the termination of June 30, 1911, and this order shall take effect on that date. He is removed from the department for the good of the service.

[SEAL] JAMES WILSON,
Secretary of Agriculture.

Mr. Moss. I will ask you if you have had any subsequent correspondence with the Secretary of Agriculture about this?

Dr. Robison. I have.

Mr. Moss. You will read the letter addressed to you by Secretary Wilson giving a more extended reason for your dismissal.

Dr. Robison. I will say, if the chairman will permit me, that following the receipt of that letter of dismissal I wrote a letter to the Secretary of Agriculture, a brief letter, in which I demanded of him by virtue of my right as an American citizen and as an employee under the civil-service act that he state the charges on file against me, and to that I received this letter.

Mr. Moss. You can place the copy of the letter in the record.

Dr. Robison. The letter I wrote him is in the hands of the Secretary of Agriculture.

Mr. Moss. Well, we may be able to get that. You may read the response of the Secretary of Agriculture to you.

Dr. Robison. This is dated, "Office of the Secretary of Agriculture. July 25, 1911:"

Mr. Floyd W. Robison,
1111 Union Trust Building, Detroit, Mich.

Sir: I have your lettter of July 14. The facts in the case are as follows:

In May, 1907, you were appointed food and drug inspection chemist, at $7 per day, on the food and drugs roll when actually employed. On November 9, 1908, you were transferred to the roll for food and drugs outside of Washington, D. C. During the year 1909 you were paid $28 and reimbursed $26.84 for expenses.

At the meeting of the Association of State and National Food and Dairy Departments at Denver in July, 1909, you attracted attention by taking a strong and public position against the policies of this department and of the administration. You appeared in the Federal court in Indianapolis in opposition to the policies of the administration with regard to the reports of the referee board on benzoate of soda and the report of the three secretaries with regard to it.

It recently came to my attention that beginning with February, 1911, you had resumed work under your old appointment, though you had not rendered any previous service since April 30, 1909. I had supposed that your long absence and work for the State of Michigan and positive stand against the administration had all resulted in your leaving the service. I have approved your dismissal for the good of the service. There are no charges against you; we make none. I recognize the fact that you have a perfect right to occupy any position you see fit with regard to the policies of the administration or of the department, but I do not think you should draw salary while you are taking this stand.

This is all I have to say. If you want a hearing, you can have one at any time.

Respectfully, James Wilson.

Mr. Moss. Were you a delegate to the Denver convention?

Dr. Robison. I was.

Mr. Moss. Whom did you represent at the Denver convention?

Dr. Robison. I represented the State of Michigan.

Mr. Moss. Who paid your expenses for attending that convention?

Dr. Robison. The State of Michigan.

Mr. Moss. Were you drawing any salary from the Government at the time you were at the Denver convention?

Dr. Robison. I was not.

Mr. Moss. Did you draw any money, either directly or indirectly, from the National Government for your attendance at the convention or for your expenses?

Dr. Robison. I did not.

Mr. Moss. What position did you hold at the Denver convention, so far as the convention itself was concerned?

Dr. Robison. I held the position of chairman of the committee of eleven state food chemists appointed by the president of the Association of State and National Food and Dairy Departments.

Mr. Moss. Did you make any report at that convention?

Dr. Robison. As chairman of the committee, I did, sir.

Mr. Moss. Will you read into the record just the report that you made to the convention?

Dr. Robison. I have this report embodied in my reply to the Secretary of Agriculture. I will state, Mr. Chairman, that the report involves several paragraphs, but the final recommendation of the report is the one——

Mr. Moss. Read the recommendation, and if the committee wants the entire report it can be inserted.

Dr. Robison (reading):

> Your committee therefore respectfully suggests to this association the wisdom of asking the President of the United States and the honorable Secretary of Agriculture to institute investigations along some such broader lines as indicated above.

Mr. Moss. In making that report did you make it in your personal capacity as the delegate or did you make it in your capacity as chairman of this committee?

Dr. Robison. I made it in my official capacity as chairman of this committee

Mr. Moss. As I understand it, you were appointed a delegate by the State of Michigan?

Dr. Robison. That is correct.

Mr. Moss. And expenses paid by the State of Michigan?

Dr. Robison. That is correct.

Mr. Moss. And as such delegate you were appointed chairman of the committee by the president of the association?

Dr. Robison. That is correct.

Mr. Moss. And as chairman you made a report of the convention?

Dr. Robison. That is correct, sir.

Mr. Moss. What disposition was made of this report?

Dr. Robison. The report was unanimously adopted by the convention.

Mr. Moss. Were you acting in any way, directly or indirectly, for the Department of Agriculture at the Denver convention?

Dr. Robison. I was not.

Mr. Moss. Did you receive any information from Secretary Wilson or any person representing the Department of Agriculture as to what the policy of the department or administration was?

Dr. Robison. I received no information from the Department of Agriculture or anyone else as to what the policy of the administration was.

Mr. Moss. Did you address the convention?

Dr. Robison. As chairman of this committee; yes.

Mr. Moss. I mean did you make an address there advocating benzoate of soda or opposing it in any way?

Dr. Robison. I did not.

Mr. Moss. Did you make any address to the Denver convention in which you referred to the Remsen board one way or the other?

Dr. Robison. I did not.

Mr. Moss. In your capacity as delegate did you cast a vote for president of that association?

Dr. Robison. I did.

Mr. Moss. Will you state for whom you cast that vote?

Dr. Robison. I cast that vote for the commissioner of the State of Michigan, who was a candidate for the presidency at that meeting.

Mr. Moss. Was the candidate for whom you cast your vote receiving the support of the Department of Agriculture at that convention?

Dr. Robison. He was not.

Mr. Moss. So far as you know, then, did you appear in opposition to the Department of Agriculture in any other manner except casting your personal vote for the president of the association?

Dr. Robison. I did not.

Mr. Moss. And will you state upon what grounds you cast your vote for the president?

Dr. Robison. On the grounds that the commissioner of the State of Michigan was a candidate for the presidency, and as a delegate of the State of Michigan I thought it my duty to cast the vote of Michigan for him.

Mr. Moss. So you cast it, then, upon the ground of state pride and your acquaintance——

Dr. Robison. Solely, sir.

Mr. Moss. At whose request did you appear at Indianapolis to give testimony at that trial?

Dr. Robison. At the request of the Board of Health of the State of Indiana.

Mr. Moss. Who paid your expenses at that trial?

Dr. Robison. The Board of Health of the State of Indiana.

Mr. Moss. Were you paid any fee?

Dr. Robison. I received no fee; no, sir.

Mr. Moss. At the trial in Indiana, upon what grounds did you testify? Upon the ground that you had done original work along the lines involved in the suit, and was testifying as to your own findings as the chemist of the original work?

Dr. Robison. Solely, sir.

Mr. Moss. In your testimony, then, were you testifying to discredit the policies of the administration or were you testifying as to the truth, as you understood it, of the issues involved, as discovered by your original work as a chemist?

Dr. Robison. I testified according to the truth as I understood it to be and had found it from my own investigations, and according to my oath, and without any regard in any capacity to any other policy.

Mr. Moss. Were you warned, either directly or indirectly, by any member connected with the Department of Agriculture, that you should not give this testimony, because it would be in opposition to the policies of the administration of the United States?

Dr. Robison. I was not.

[Dr. Wiley, although chief of the Bureau of Chemistry and responsible for the enforcement of the national Food and Drugs Act, was not a delegate from the Department of Agriculture and had no vote. Instead the delegation representing the pure food work of the national government was headed by Solicitor McCabe, a lawyer, who knows nothing of chemistry, foods or drugs. A portion of Dr. Wiley's testimony relating to the Denver meeting follows:]

DR. WILEY'S TESTIMONY

Mr. Davis. It was stated by Mr. McCabe, on page 436 of the record, that you, among others, attended the meeting at Denver which has been several times referred to in these proceedings. What is the fact about that?

Dr. Wiley. I understand that Mr. McCabe said I was a delegate.

Mr. Davis. That is the implication of his answer.

Dr. Wiley. I was not a delegate to the meeting at Denver. I went out there to attend a meeting of Official Agricultural Chemists, of which I am the permanent secretary, and also to visit my laboratory, or, I should say, the laboratory of the Bureau of Chemistry there, which I had never seen. During my stay there I was incidentally in the meeting of food commissioners a few times, and my name was down to read a paper on the program, and when the time came for my paper I was attending the meeting of the Official Agricultural Chemists, which was held in the same building, and the Secretary of Agriculture was appointed chairman of a committee to wait on me and bring me into the hall to read my paper. The Secretary of Agriculture and the committee waited on me and I went with them into the meeting, and the Secretary presented me to the chairman in a short speech and I read my paper, which consumed about 15 minutes, I think, and I then returned to the meeting of Official Agricultural Chemists. I was not otherwise a delegate to that convention and took no part whatever in its proceedings.

The Chairman. Did you vote in the meeting that you have been referring to—the meeting of the State and National Dairy and Food Department?

Dr. Wiley. No. When it came time for the Agricultural Department to vote Mr. McCabe asked me if I wanted to vote. I said, "No, I am not a delegate and I will not vote."

The Chairman. Were you paid any expenses for having attended the National Food and Dairy Department meeting?

Dr. Wiley. No. My expenses were paid to the other meeting, the Association of Official Agricultural Chemists, and the inspection of my laboratory. Nothing was paid in connection with the dairy and food commissioners.

Mr. Higgins. But you took the trip and this was incidental to your trip and the expenses for the trip were paid by the Department?

Dr. Wiley. Yes, sir.

Mr. Davis. You have spoken of the expenses of certain appointees as having been paid from the bureau, or some reference was made to that—in fact, I don't think you yourself have made a statement about it—and I call your attention to the names of Charles W. Boyle and others whom I named to Mr. McCabe, and Mr. McCabe stated that these persons had been appointed for duty in his office. I will ask you from what appropriation they were paid, if you know?

Dr. Wiley. I do know.

Mr. Davis. Well?

Dr. Wiley. They were paid from the money appropriated to the Bureau of Chemistry.

Mr. Davis. Did you ever have the services of those men or any of them?

Dr. Wiley. They were never in my office; not one of them to my knowledge.

Mr. Davis. In other words, they were appointed and they were paid out of your fund and they performed their duties in the office of the Solicitor?

Dr. Wiley. That is correct.

Mr. Floyd. Have you a list of those?

Dr. Wiley. I have. It is there [indicating].

Mr. Davis. I now hand you a list and ask you to examine this list and state whether that correctly gives the names and the compensation of the persons of whom I have just inquired?

Dr. Wiley (after examination of list). To the best of my knowledge and recollection it does. These appointments were made, and the only knowledge I had of them was that they had been appointed to the Bureau of Chemistry and detailed to the Solicitor's office, and that the money would be charged against the Bureau of Chemistry. That was to notify me so that I would not myself spend that money when it was being spent in another place.

Mr. Higgins. Did you understand that was for the enforcement of the Food and Drugs Act.

Dr. Wiley. I did not understand what it was for.

[Comment is hardly necessary on the portion of Secretary Wilson's evidence given below. Those who have followed the testimony of this case to this point will find a number of suggestive statements in the secretary's replies.]

SECRETARY WILSON'S TESTIMONY

The Chairman. It was at your request, Mr. Secretary, that certain employees of the Department of Agriculture attended the Denver convention of the Association of State and National Food and Drug Departments, was it not?

Secretary Wilson. Yes; that is right.

The Chairman. Did you assign any special duty to those employees who attended this convention, which duty did not appear on the published program of the association?

Secretary Wilson. That particular question I would have to look over my orders to refresh my recollection about. I do not remember anything of that kind, and yet it might have been.

The Chairman. Dr. Dunlap stated in his testimony before the committee that at your request he made an unofficial trip at public expense to confer with Dr. Remsen concerning the Denver convention. Will you be willing to explain to the committee what request you submitted to Dr. Remsen through Dr. Dunlap?

Secretary Wilson. I could not remember. If I can dig it up in my recollection or from any contemporaneous fact, I will be glad to send you an intelligent answer.

The Chairman. In a letter which Dr. Remsen wrote to you, Mr. Secretary, he used this language—and I can put in the entire letter, if you would like to have your recollection refreshed—in which he speaks of your plan as an excellent one. I will read it so it will come back to your memory and refresh your memory on the point.

The letter is dated June 30, 1909, and is as follows:

> MY DEAR MR SECRETARY: Mr. Dunlap has no doubt informed you of the general trend of our conversation. I have now to say that I have written to all the other members of the board urging them to arrange so as to be in Denver at the time of the meeting of the association. You may count upon the attendance of most of us. There is some doubt as to Dr Herter, as he has been somewhat disabled, but I know he will go if possible.
>
> Your plan, as explained by Dr. Dunlap, is an excellent one. It is time something definite were done. You will find our board not only willing, but anxious to cooperate with you in this effort to get things on a solid, scientific, common-sense basis.

The letter is addressed to you, Mr. Secretary, and is signed Ira Remsen, chairman of the Referee Board of Consulting Scientific Experts.

Secretary Wilson. Yes.

The Chairman. Would you care to explain to the committee what your plan was that you had Dr. Dunlap explain to Dr. Remsen?

Secretary Wilson. Surely. That was the Board of Foods and Drugs, and if I remember the names of those connected with it, nearly all of them have my permission to cooperate with us in their states, and so forth, and to help us, and we help them. They had met at Mackinac Island. I think it was, Lake Superior, if my geography does not desert me, and they had done queer things there. We had a referee board, and I think a pretty expensive referee board, you will confess. We had gone after big men, and it was costing a good deal of money, and those people met there at Mackinac Island and got themselves outside of sympathy with the department along those lines, attacked me personally, misrepresented things, and I thought the amount of effort the United States was making and the amount of money it was expending to get facts from the greatest chemists in the land made it worth while for us to get those big men there before that class of men and let them see them and let them hear them. I did not think they comprehended the difference there was between a small chemist and a big one. That was the one thing in my mind. They were in California studying the drying of foods with sulphur, that we spoke about this morning, and the arrangement was they should stop over at Denver on the way back. I was going to the forests, and I arranged and it was my plan to stop there on my way to the forests. I went into the forests from Denver and stayed a month. Those were the plans. There is nothing

I care to conceal here, not a thing. Those were the plans and we talked them over, and every one of them addressed that convention, every one of them, and I think those people got new light from those men.

The Chairman. However, I believe the function of the board was simply to make recommendations to you as Secretary of Agriculture, was it not?

Secretary Wilson. That was a function, of course; that was the original function; but they were on their way back, and they stopped over there and let them have the benefit of their high intelligence along those lines.

The Chairman. Do you consider, or did you consider at the time, that the attendance of members of the Remsen Board and Solicitor McCabe at this Denver convention, which we were speaking about heretofore, was in line with their official duties?

Secretary Wilson. Yes; it was a kind of public trial we were having really, of the Remsen board.

The Chairman. Their attendance being in the line of their official duty. Will you explain why you issued to each one of them a special authorization for traveling expenses to attend this particular convention, when each one of them had an annual authorization for travel anywhere in the United States upon official business?

Secretary Wilson. If you have evidence of that special authorization, you had better call my attention to it.

The Chairman. Very well, I will be glad to do that.

Secretary Wilson. I do not remember anything about that.

The Chairman. I have the special authorization for Mr. McCabe, which does not appear in our proceedings, but which was furnished by your kindness and your direction.

Secretary Wilson. There is not a thing we have that you can not get.

The Chairman. Probably I had better refresh your memory with that official authorization before making further inquiry about it. It is as follows:

> Washington, D. C., *July 1, 1909.*
>
> Dr. Ira Remsen,
> *Consulting Scientific Expert to the Secretary of Agriculture.*
>
> Sir: Authority is hereby granted you to perform such travel within and throughout the United States during the year 1910 as may be necessary in connection with your duties as consulting scientific expert. This authority may be extended by you to your associates, Dr. John H. Long, Dr. Russell H. Chittenden, Dr. Alonzo E. Taylor, Dr. C. A. Herter, associate consulting scientific experts, and to such regularly appointed assistants of the board as you deem proper. You, your associates, and the regularly appointed assistants mentioned above, will be allowed the usual traveling expenses when traveling upon official business.

In another communication you say:

> Washington, D. C., *August 6, 1909*
>
> Dr. Ira Remsen,
> *Consulting Scientific Expert to the Secretary of Agriculture.*
> *Johns Hopkins University, Baltimore, Md.*
>
> Sir: You are advised that authorization No. 1163, which permits you and the other members of the referee board to perform travel within and throughout the United States in connection with your duties as consulting scientific experts, is hereby so amended as to permit you and your assistants to attend the convention of the Association of State and National Food and Dairy Departments, to be held at Denver, Colo., beginning August 23, 1909, and I trust that you and your assistants will be able to attend that meeting while en route to or from the Pacific coast.

Secretary Wilson. I guess that is correct. What do you want to know about it?

The Chairman. I want to know, if this attendance was in line with their official duties, as stated here, why it was necessary they should have special authorization when they had a regular authorization?

Secretary Wilson. I presume they had some doubts about stopping off at Denver being in their original authorization. If they had, then I gave them all the authorization they would need.

The Chairman. If there were any doubt it would be doubt as to whether or not that came within their official duties?

Secretary Wilson. Precisely.

The Chairman. Do you hold that you have executive authority to add to the official duties of the Remsen board other than that prescribed in the order creating them?

Secretary Wilson. To this extent; yes.

The Chairman. To that extent you have?

Secretary Wilson. Yes.

The Chairman. I presume the same reply would be applicable as to the special authorization issued to Mr. McCabe?

Secretary Wilson. The same thing, although I do not remember now what authorization it was.

The Chairman. I will say to you, if you care to go into it, that I have a copy of the special authorization. It has been sent to me, but I presume it is not necessary to produce it at this point.

Secretary Wilson. Not at all; I take your word for it.

The Chairman. Do you consider there is any degree of doubt about Solicitor McCabe having the right and official duty to attend that particular convention any more than did the Remsen board?

Secretary Wilson. I do not imagine there would be much difference.

The Chairman. Was Mr. McCabe placed upon the program at that meeting, so far as you remember?

Secretary Wilson. That I do not remember.

The Chairman. Do you remember whether or not he was invited to address the convention?

Secretary Wilson. That I do not remember, either.

The Chairman. Do you remember whether any request came from that association officially to Mr. McCabe to attend that meeting or not?

Secretary Wilson. That I do not remember, either.

The Chairman. You stated there did such a request come to members of the Remsen board?

Secretary Wilson. Oh, yes; there is no question about that.

The Chairman. Would you mind, Mr. Secretary, looking up that question and placing in the record a statement as to whether or not there was a request came from the association to Mr. McCabe to attend?

Secretary Wilson. I will be glad to do it.

The Chairman. We will be glad if you will do that.

Secretary Wilson. I will be glad to do it, Mr. Chairman.

(Note.—On revising this testimony, Secretary Wilson finds, upon inquiry, that Mr. McCabe attended this convention at Denver as a delegate from the Department of Agriculture.)

The Chairman. In your letter of July 25, 1911—and I have the letter, if you care to refer to it—to Floyd W. Robison, in giving the reasons for his dismissal from public service, you stated that Dr. Robison attracted attention by taking a strong and public position at the Denver convention against the policy of your department and of the administration. I believe at that time Dr. Robison was a member of the Department of Agriculture, was he not?

Secretary Wilson. Dr. Robison's position in the Department of Agriculture at that time, I think, was a little bit peculiar. Dr. Robison was recommended to me by, I think, Dr. Wiley or some of the chemists, to be employed as expert to do some day's work; that is all—just some day's work, at so much a day. He did a few days' work and then he went and associated himself for two years with the Michigan people as their agricultural chemist, and I supposed he was out altogether, and so I did not pay any attention to his activities at Denver. But he was also active at other places. As I understand it, there is quite a difference between chiefs and subordinates of that kind. I learned, however, that he had been set at work again; that he had been in your State, Mr. Chairman, and had been active there. When you start out to drive a six-horse team, Mr. Chairman, if each horse is going to pull his own way, you will never get anywhere. I do not propose to have subordinates in my department going off on tangents that are against the decisions of the three secretaries and myself, and all that, after we have gone to the expense of hiring such noted experts and scientists as we did to make up that referee board. I propose the gentlemen will work in line or keep still about it.

The Chairman. That particular phase was covered in full in Dr. Robison's testimony, and I want to get your version of it. In what particular way, Mr. Secretary, if you care to state it, did Dr. Robison oppose your policies at the Denver convention?

Secretary Wilson. Dr. Robison was not frank in that testimony before you. He did not say a word to you about his being away two years. He really did not belong to our department. But under that old appointment he had a few days' work which he was put on actively at New York, and I did not think it ought to be without my knowing it.

The Chairman. That is all right about that; but will you kindly explain again in what way at Denver he was opposed to your policy or to the policy of your department? In what particular thing did he oppose your policy? What particular thing did he do or what particular thing did he favor that was opposed to it?

Secretary Wilson. He was connected with a committee or board to get up resolutions, is my recollection.

The Chairman. He stated he appeared there as chairman of the board.

Secretary Wilson. Yes; appointed at this Mackinac Island meeting, I think.

The Chairman. Did you understand, Mr. Secretary, that his action in reporting there was a personal one, or that he was acting for the committee?

Secretary Wilson. If he belonged to the Department of Agriculture, he should have gotten consent from the Department of Agriculture to do that kind of work. The fact is, he did not.

The Chairman. You mean he should have gotten consent before he accepted the chairmanship of that board?

Secretary Wilson. Surely.

The Chairman. He should?

Secretary Wilson. He should have done so.

The Chairman. Was Dr. Robison there at the expense of the Department of Agriculture?

Secretary Wilson. No; he was not. And I do not think he belonged to the Department of Agriculture at that time. I think he belonged to the Michigan people.

The Chairman. The only opposition he could show was as being opposed to the decisions of the referee board in the matter of benzoate of soda. That is it, is it not?

Secretary Wilson. Precisely it. That was the dividing line.

The Chairman. You also stated that he appeared in the federal court in Indianapolis in opposition to the policies of the Department of Agriculture. Please explain in that regard.

Secretary Wilson. If he belonged to the Department of Agriculture, he should have consulted me before going anywhere to discuss or act with regard to that question. That is the position I took.

The Chairman. Is it not true that Dr. Robison is the only employee of the Department of Agriculture who appeared in Indianapolis and testified in behalf of the state in that suit?

Secretary Wilson. That I do not know.

The Chairman. Has any other employee who attended there for the State of Indiana been called to your attention as attending?

Secretary Wilson. I have no recollection.

The Chairman. Is it not also true that at least four of the employees of the Department of Agriculture did attend at Indianapolis and testified for the plaintiffs in that case?

Secretary Wilson. It has come to my attention that we paid the expenses of one, and I have heard incidentally that there were two others there. I never heard of the fourth.

The Chairman. I am making that statement of four upon the statement of the attorney, Mr. Baldwin. Up to that time I only knew of three who were members of the Remsen Board. I believe Mr. Baldwin stated there were four, one coming from Kentucky.

Secretary Wilson. I do not happen to know of anybody that would go there from Kentucky, but I do not think that is very important.

The Chairman. The records of your department would show that those employees of your Department of Agriculture who appeared at Indianapolis are still within the employ of the government, will they not?

Secretary Wilson. I think so, if they are.

The Chairman. And those records will also show that Dr. Robison was discharged?

Secretary Wilson. Oh, the records will show that, surely.

Correspondence

Informing the "Typhoid-Carrier"

To the Editor:—It has been found that 3 to 5 per cent. of the patients recovering from typhoid are "carriers," that is, have typhoid bacilli in their stools even after they are well enough to be up and about. These unfortunate individuals are a danger to those about them and constitute one of the most difficult problems in preventive medicine. Although physicians are well aware of these facts, very little is done to minimize this source of infection. Hospital patients and private patients are discharged from observation without an examination to discover which are the "carriers" and which are rid of typhoid bacilli. This *laissez-faire* attitude is probably due to the irksomeness of routine bacteriologic examinations, and to the realization that we are in possession of no means of curing a "carrier." Nevertheless, I believe that we are not justified in taking this position, in sending patients back to their homes in ignorance of the fact that they may readily transmit typhoid to their friends and relatives. Although it is true that we cannot rid them of typhoid bacilli, there would be a decided advantage in most cases if the individuals were aware of their infectious state. As things are now, they go home and take no precautions, many of the women cooking the meals or at least handling the food as usual. They do not know that they should observe especial cleanliness in the various sanitary matters which it is unnecessary to detail.

I feel that this state of affairs constitutes a very weak link in the chain of the prophylaxis of typhoid. It seems to me that it would not involve too great labor to have a bacteriologic examination made of the stools before each typhoid patient is discharged from the hospital. It would not be possible to detain the patient until a negative culture could be obtained, as we do in the case of diphtheria; however, we could inform the "carrier" (and possibly the board of health as well) of his condition, and give him written instructions as to the precautions which he should observe. We might even arrange for subsequent stool examinations by the hospital or by the board of health, so as to acquaint the patient when he is finally rid of the bacilli.

This subject was recently brought home to me with emphasis when, following the discharge from the hospital of two children who had been suffering from typhoid, a third case immediately developed in the home.

Alfred F. Hess, New York City.

The Home for Widows and Orphans of Physicians

To the Editor:—In a communication by me to The Journal of Aug. 28, 1909, page 735, regarding the "Fund for Relief of Widows and Orphans," founded by the Medical and Chirurgical Faculty of Maryland in 1903, I stated that it was our hope eventually to found here also a home where the widows and children needing it could be cared for, the children educated and helped to get a start in the world and even helpless or superannuated physicians could find a shelter. It was our purpose and desire that this work, like the fund, should be under the direction and control of the faculty, which is the state medical society. Unfortunately it was found that the charter of the society gave no authorization for the institution and the advice of lawyers who were consulted was against its assumption.

Believing thoroughly in the urgent need of a home and compelled to act independently, we set to work to raise funds. The result of our efforts so far—a little over a year—is a substantial fund in the bank, and we are now on the lookout for a suitable property within the city with a view to purchase. We propose to start within the city, where it will be convenient to our workers and in a modest fashion work up.

And now we appeal to the members of the medical profession throughout the United States for their aid. By its charter the home is to be one for the "widows and orphans of physicians" and this in no limited sense. The institution is national in scope and those for whom it is designed will be welcomed whether they come from the north or the south, the east or the west. Those worthy will be admitted without unnecessary delay and without admission fee. We hope to see it grow rapidly and to be able to accommodate all who need assistance. We ask contributions of all whose hearts can be touched by pity or suffering. We ask for the widows and orphans of our brethren. Who knows but that our own widows and orphans may some day need this very help?

Eugene F. Cordell, M.D., Treasurer.
257 W. Hoffman Street, Baltimore.

Factors in Death-Rate.—Hoffman, in his paper on the "General Death-Rate of Large American Cities," enumerates the following factors as affecting the rate: size of city, density of population, latitude, longitude, elevation, rate of annual increase, proportion of males, of foreign-born, of foreign parentage, of colored, of illiterate, of male wage-earners, of ages, the mean annual maximum and minimum temperature, and mean annual relative humidity; so that the general death-rate, when analyzed, is found to be based on a very complex set of props, and the influence of the most important must be measured before accepting it as an index of mortality.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

LANOLIN NOT A PROPRIETARY

To the Editor:—In saying that "lanolin" is a "non-proprietary name" (The Journal, Sept. 9, 1911, p. 902), do you mean that it is neither trademarked, patented or in other ways protected? I should be pleased to know that.

Adolph Koenig, Pittsburgh.

Answer.—In the case of lanolin the supreme court of the State of New York upheld the principle that as the name given by the parent to the child belongs to the child, so the name applied to a product belongs to that product and not to those who gave the name. Therefore, the court ruled that the name used to designate a patented product becomes the proper designation of that product and that, when the patent expires, others may make and sell the product and may also apply the name originally used by the owners of the patented product. In the lanolin case it was held that anyone could manufacture the product and could call it lanolin so long as no attempt was made to mislead the buyer into believing that the particular product was made by the original patentees, when it was not.

BREEDING PLACES FOR FLIES AS NUISANCES—DISPOSAL OF WASTES IN A NON-SEWERED TOWN

To the Editor:—1. What sanitary regulations would you consider advisable and practicable in regard, particularly, to disposal of livery stable and other manure in a small, flat, river-valley town without sewers? 2. Suppose in the absence of adequate town or county regulations a citizen relied on a statutory prohibition of "nuisances," and prosecuted an offender, say a livery stable keeper, for depositing and accumulating manure in proximity to dwellings, what test might reasonably be applied in defining the term "nuisance"? Could such manure fairly be considered a "nuisance" after one day, or one week, or one month? 3. What time would be needed for the incubation of flies in such manure?

W. R. Tymms, Orting, Wash.

Answer.—1. It could not be considered an unreasonable sanitary regulation to require that stalls be cleaned daily and that stable manure be kept in closed, or at least carefully screened, bins to prevent access of flies, and that it be removed therefrom at least once a week. This would no doubt prevent the breeding of flies and would avoid any considerable accumulation of the manure and consequent nuisance. In addition, to prevent the breeding of flies, a regulation requiring the sprinkling of the daily accumulation with a solution of iron sulphate, one pound to the gallon of water, might be adopted. This is cheap and is said to be effective, and does not spoil the manure for fertilizing purposes. The manure when removed should not be deposited in heaps on the ground, particularly within the town limits, but should be immediately thinly spread. It will then dry out and will not afford a good breeding place for flies.

2. The Supreme Court of Washington has suggested that the question of nuisance or no nuisance cannot be determined by reference to the rules of the common law, but that each case must be considered on its own facts. The case of Everett *vs.* Paschall (111 Pac. R. 879) was briefly abstracted in the Medicolegal Department of The Journal, Jan. 28, 1911, p. 296, under the heading of "Private Tuberculosis Sanitariums As Nuisances." Other instructive comparatively recent decisions of that court on the general subject of nuisances are Thornton *vs.* Dow (111 Pac. R. 899), and Densmore *vs.* Evergreen Camp (112 Pac. R. 255). Coker *vs.* Birge (9 Ga. 425) is an old case holding a livery stable near a hotel to be a nuisance, while in Albany Christian Church *vs.* Wilborn (112 Ky. 507), a private stable near a church is held not necessarily to be a nuisance, everything depending on how it is kept.

3. According to observations by the Public Health Service the eggs of flies were hatched eight hours after being laid; Newstead of Liverpool found that in a temperature of from 75 to 80 F. they hatched in from eight to twelve hours; in a temperature of 60 F. in twelve hours, but at 45 F. they did not hatch until they were brought into a warmer atmosphere on the third day. The duration of the egg stage, as observed in Washington, was usually eight hours; that of the larval stage less than five days. The adult fly may emerge between the third and fourth day after pupation—making in all nine days from the laying of the egg to the appearance of the grown fly. Where the manure is in small piles, or is partly spread out, the full-grown larvæ almost ready for transformation are apt to migrate into the loose ground under the pile or from the edges of the pile outward, to transform under nearby rubbish. This habit may have a very important practical value, since municipal regulations of individual stable practice in regard to the removal of manure should take into consideration that such removal at intervals longer than those required for the larva to reach full growth may result in the leaving of many puparia, except, of course, in cases in which especial receptacles for manure are in use.

Literature on the subject was cited in this department June 24, 1911, p. 1900, and in the Miscellany Department Sept. 3, 1910, p. 875. The latter also refers to the disposal of human excreta. See also the Department of Book Notices, this issue, page 1079.

OPEN-AIR TREATMENT OF BURNS

To the Editor:—Please describe in brief the open-air treatment of burns.

C. L. Olson, McIntosh, S. Dak.

Answer.—The open-air treatment of burns was described in The Journal, Aug. 18, 1906, page 529, as follows: Concerning the local treatment of the burned area, the tendency at present is to the open-air method. The uncovered skin is left exposed to the air, blebs are removed, the area gently dried, dusted with stearate of zinc or other bland dusting powder, and fanned to hasten drying and the formation of crusts. Contrary to early ideas the pain under this line of treatment soon subsides and healing is more rapid than under moist dressings. The unburned portion of the surface should be bathed and cleansed often and the temperature of the room should be maintained high in order to favor the action of the skin. The air must be kept as pure as possible and the utmost cleanliness maintained about the bed linen and everything else that comes in contact with the patient. A liberal supply of pure water should be provided, and only liquid nourishment allowed until the dangers of intestinal complications have passed.

TEXT-BOOKS ON MATERIA MEDICA

To the Editor:—Is there any materia medica published which classifies and describes the medicines under their principal therapeutic action—*e. g., medicines acting on the heart, nervous system,* pulmonary system, etc.?

E. H. Sauvignet, Laredo, Tex.

Answer.—The principal text-books of materia medica classify drugs in one of four ways: 1, according to origin; 2, according to composition; 3, according to physiologic action; 4, alphabetically.

In the first class is Culbreth; in the second class, Phillips; in the third class, Bartholow, Butler, Cushny, Sollmann, Stevens, Wilcox, Wood; in the fourth, Hare, Potter and Shoemaker.

NO RECIPROCITY BETWEEN NEW YORK AND NEW JERSEY

To the Editor:—Does New Jersey have reciprocal relations in medical licensure with New York?

C. M. E.

Answer.—Reciprocal relations between New York and New Jersey were discontinued in 1910 and have not been resumed.

FORMULA FOR FELT OR CLOTH SPLINT

To the Editor:—In The Journal, Sept. 9, 1911, p. 918, F. S. B. asks for a formula for a good cloth or felt splint. He will find the following very useful;

One pound of gum shellac is dissolved in 1½ pints of alcohol with 1 dram of borax. This makes a thrick solution. In order to make the splints, the solution should be applied on one side of a woolen cloth with an ordinary paint brush and dried thoroughly; then a second coat is applied on the same side and dried as at first, making a single piece. If a stronger piece is needed the solution should be applied on the sides of two pieces that have already been saturated, and put together and pressed with a hot iron until they unite and become as one piece. Cloth that has been worn is better than new cloth, for it is more porous and takes up more of the solution. The alcohol should be evaporated out of the cloth before applying the second coat; also good shellac that has not been adulterated should be used. It will dissolve in a few moments if held in hot water. The splint can be tempered by holding before a hot fire till soft, then placing in a cold atmosphere or in cold water.

For dressing the limb, the splint should be immersed in hot water or held before a hot fire till soft; then applied and shaped to the limb; then removed and lined with some soft material, reappplied and bandaged.

A. E. Spalding, M.D., Luverne, Minn.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARIZONA: Phoenix, October 2-3. Sec., Dr. Ancil Martin.

COLORADO: The State Capitol, Denver, October 3. Sec., Dr. David A. Strickler, 612 Empire Building.

GEORGIA: Regular, Atlanta, October 10. Sec., Dr. C. T. Nolan, Marietta. Homeopathic, Atlanta, October 10. Sec., Dr. R E. Hinman, 106½ Whitehall Street.

IDAHO: Wallace, October 3-4. Sec., Dr. O. J. Allen, Bellevue.

ILLINOIS: Coliseum Annex, Chicago, October 26-28. Sec., Dr. J. A. Egan, Springfield.

LOUISIANA: New Orleans, October 19-21. Sec., Dr. A. B. Brown, 108 Baronne Street.

MICHIGAN: Legislative Bldg., Lansing, October 10-12. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

MINNESOTA: State University, Minneapolis, October 3. Sec., Dr. W. S. Fullerton, St. Paul.

MISSISSIPPI: State Capitol, Jackson, October 10-11. Sec., Dr. S. H. McLean.

MISSOURI: Kansas City, September 25-27. Sec., Dr. Frank B. Hiller, Jefferson City.

MONTANA: The Capitol, Helena, October 3. Sec., Dr. W. C. Riddell.

NEW JERSEY: The State Capitol, Trenton, October 17-18. Sec., Dr. H. G. Norton, 429 E. State Street.

NEW MEXICO: The Capitol, Santa Fe, October 9-10. Sec., Dr. J. A. Massie.

OKLAHOMA: Muskogee, October 10. Sec., Dr. John W. Duke, Guthrie.

RHODE ISLAND: Room 315 State House, Providence, October 5-6. Sec., Dr. Gardner T. Swarts.

UTAH: Salt Lake City, October 2-3. Sec., Dr. G. F. Harding, 310 Templeton Building.

WYOMING: Riverton, October 9-11. Sec., Dr. A. B. Tonkin.

Pennsylvania June Reports

The Medical Council of Pennsylvania reports the written examinations held at Philadelphia, Pittsburgh and Harrisburg, June 27-30, 1911. The number of subjects examined in was 9; percentages required to pass, 75. At the examinations held by the State Medical Society of Pennsylvania, at Philadelphia and Pittsburgh, the total number of candidates examined was 377, of whom 359 passed and 18 failed. The following colleges were represented:

PASSED

College	Year Grad.	Total No. Examined.
Yale University	(1908)	1
Chicago College of Medicine and Surgery	(1911)	2
University of Louisville	(2, 1910) (3, 1911)	5
University of Maryland	(1909) (1910) (6, 1911)	8
Baltimore Medical College	(1908) (4, 1911)	5
College of Phys. and Surgs., Baltimore	(1908) (3, 1911)	4
Baltimore University	(1904)	1
Johns Hopkins University	(1908) (1910) (5, 1911)	7
Maryland Medical College	(1910) (2, 1911)	3
Harvard Medical School	(1884) (1911)	2
Univ. of Michigan, Dept. of Med. and Surg.	(1905) (1910)	2
Detroit College of Medicine	(1911)	1
University of Buffalo	(1898) (2, 1911)	3
Columbia University, College of Phys. and Surgs.	(1900)	1
Leonard Medical School	(1909)	1
Starling-Ohio Medical College	(1911)	2
Western Reserve University	(1909)	1
University of Pennsylvania	(1897) (1908) (2, 1909) (2, 1910) (76, 1911)	82
Jefferson Med. Coll.	(1906) (1909) (7, 1910) (64, 1911)	73
Temple University	(1910) (19, 1911)	20
Medico-Chirurgical College, Philadelphia	(1909) (4, 1910) (57, 1911)	62
University of Pittsburgh	(1909) (3, 1910) (46, 1911)	50
Woman's Medical College of Pennsylvania	(1906) (1908) (1910) (16, 1911)	19
University of Vermont	(1904)	1
University of Virginia	(1911)	1
McGill University, Montreal	(1907)	1
University of Giessen, Germany	(1901)	1

FAILED

College	Year Grad.	Per Cent.
Georgetown University	(1908)	71.2
Howard University	(1909)	62.7
University of Louisville	(1911)	52.8, 62.3, 71.5, 71.7, 72.
College [illegible] imore	(1910)	65
Woman' [illegible]	(1904)	70.1
Marylar [illegible]	(1911)	71.2
St. Lou [illegible] eons	(1906)	69.5
Medico- [illegible]	(1910)	68.9
University of Pittsburgh	(1911)	74.2
University of Pennsylvania	(1909) 74.2; (1911)	63.7, 73.1
University of Nashville	(1910)	66.7
University of Naples, Italy	(1902)	62.2

At the examination held by the Homeopathic Medical Society at Philadelphia, the total number of candidates examined was 39, of whom 37 passed and 2 failed. The following colleges were represented:

PASSED

College	Year Grad.	Total No. Examined.
University of Michigan Homeopathic College	(1908)	1
Hahnemann Medical College and Hospital, Philadelphia	(1910) (29, 1911)	30
New York Homeo. Medical College and Hospital	(1911)	1
Cleveland-Pulte Medical College	(1911)	5

FAILED

College	Year Grad.	Per Cent.
Hahnemann Med. Coll. and Hosp., Philadelphia	(1910)	66.8
Cleveland-Pulte Medical College	(1911)	63.5

At the examination held by the Eclectic Medical Society at Harrisburg, the total number of candidates examined was 41, of whom 39 passed and 2 failed. The following colleges were represented:

PASSED

College	Year Grad.	Total No. Examined.
Baltimore University	(1903)	1
Maryland Medical College	(1910) (23, 1911)	24
Baltimore Medical College	(1905) (1910)	2
University of Maryland	(1909)	1
Eclectic Med. Coll., Cincinnati	(1896) (1910) (5, 1911)	7
Medico-Chirurgical College, Philadelphia	(1910) (1911)	2
University of Naples, Italy	(1901) (1904)	2

FAILED

College	Year Grad.	Per Cent.
Maryland Medical College	(1911)	73.5
Atlantic Medical College	(1910)*	

* Did not complete the examination

The Public Service

Medical Corps, U. S. Navy

Changes during the week ended Sept. 16, 1911.

Wells, H., medical director, detached from command of the naval hospital, Portsmouth, N. H., and ordered home.

Higgins, S. L., P. A. surgeon, ordered to duty at the naval hospital, New York.

Huff, E. P., P. A. surgeon, detached from the Navy yard, Washington, D. C., and ordered to duty at the naval hospital, New York.

Porter, F. E., P. A. surgeon, ordered to the Navy yard and to additional duty at the naval hospital, Portsmouth, N. H.

Crow, G. B., asst. surg., ordered to duty at the naval hospital, Philadelphia.

Bogan, F. M., surgeon, detached from the *Wisconsin* and ordered to duty at the naval hospital, Portsmouth, N. H.

Rennie, W. H., P. A. surgeon, detached from the *Tacoma* and ordered to the *Wisconsin*.

U. S. Public Health and Marine-Hospital Service

Changes for the fourteen days ended Sept. 13, 1911.

Glennan, A. H., asst. surg.-gen., granted nine days' leave of absence from Sept. 7, 1911.

Cofer, L. E., asst. surg.-gen., granted ten days' leave of absence from Sept. 18, 1911.

Austin, H. W., surgeon, detailed to represent the Service at the annual meeting of the American Hospital Association to be held in New York City, Sept. 19-22, 1911.

Carter, H. R., surgeon, granted seven days' additional leave of absence from Aug. 31, 1911.

McIntosh, W. P., surgeon, leave of absence for fifteen days from Sept. 1, 1911, amended to read "fifteen days from Sept. 4."

Wertenbaker, C. P., and Young, G. B., surgeons, detailed to represent the Service at the next annual meeting of the Association of Military Surgeons, to be held at Milwaukee, Wis., Sept. 26-29, 1911.

Eager, J. M., surgeon, directed to proceed to Marseilles, France, for duty in the office of the American consulate.

Gardner, C. H., surgeon, granted ten days' leave of absence from Sept. 5, 1911, on account of sickness.

Foster, M. H., P. A. surgeon, directed to proceed to Stapleton, N. Y., and report to the medical officer in command for temporary duty and assignment to quarters.

Grimm, R. M., asst. surgeon, detailed to make an investigation of local outbreaks of pellagra.

Del Valle Atiles, Pedro, A. A. surgeon, granted thirty days' leave of absence from Sept. 1, 1911.

Duffy, Francis, A. A. surgeon, granted twenty days' leave of absence from Sept. 1, 1911.

Hembree, A. T., A. A. surgeon, granted fifteen days' leave of absence from Aug. 15, 1911.

Kaplan, Maurice L., A. A. surgeon, granted seven days' leave of absence from Aug. 15, 1911, under paragraph 210, Service Regulations.

Kennedy, S. R. M., A. A. surgeon, granted thirty days' leave of absence from Sept. 1, 1911.

Moorer, M. P., A. A. surgeon, granted fourteen days' leave of absence from Sept. 5, 1911.

Robinson, H. D., A. A. surgeon, granted seven days' leave of absence from Sept. 11, 1911.

Tarbell, B. C., A. A. surgeon, granted thirty days' leave of absence, with pay, from Aug. 21, 1911, and thirty days, without pay, from Sept. 20, 1911.

Clegg, Moses T., assistant director, Leprosy Investigation Station, leave of absence for twenty-eight days, with pay, from July 12, 1911, and two days, without pay, from Aug. 14, 1911, amended to read "twenty-six days, with pay, from July 12, 1911."

Stiles, C. W., professor of zoology, directed to represent the Service at the Conference on Hookworm Disease to be held in Nashville, Tenn., Sept. 14-16, 1911.

Medical Economics

This Department Embodies the Subjects of Postgraduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

INFANT WELFARE IN LEIPSIC

By Charles R. Henderson, Ph.D., D.D.
Professor of Sociology in the University of Chicago
CHICAGO

The organization of Leipsic is selected as a concrete illustration of recent tendencies in German cities because it is relatively well developed and because it was early in the field. Its administrative measures cannot be slavishly copied, but they are suggestive for American cities, where lawyers, physicians and philanthropic workers are wisely joining forces.

In Leipsic the local court centralizes guardianship for all public wards in one city office, an arrangement which simplifies the judicial tasks and makes the guardianship more effective. This central office, with expert lawyers in charge, is responsible to the court for all illegitimate children in Leipsic from birth to the end of school age, whether in charge of the mother or of some other person. Legitimate children placed with foster parents at public cost are under the same supervision. The care is extended to majority.

Every birth is reported to the police office by the midwife or physician. Neglect of this important duty is punished. Then begins the activity of the physician for foster children, the man who was a pioneer in rational and effective methods, Dr. Taube. In the splendid new city hall, the medical staff have commodious quarters: office for inspections, large waiting-rooms, consultation and nursing rooms and even courts for baby carriages. The municipal authorities evidently appreciate the importance of infant welfare. The mother or foster mother must present the child soon after its birth, on Friday afternoon, in one of the places appointed. From the beginning, the child is under medical control. Dr. Taube has long insisted that "it should be legally forbidden for any one to assume charge of an infant in return for payment without knowledge of the central office." The direct supervision of the infants, after the examination by the physicians, is carried out by women assistants who are carefully selected, trained and paid. They receive at first $125 yearly and may be advanced to $300. Twenty-one days each year are given for vacation. From personal observation, from actual visits of inspection in the dwellings of the poor, and from authoritative information, I have received a very favorable impression of these supervising women. Each one of them is assigned about 285 to 300 children; for inspection the very young, the sick and the feeble are visited most frequently. The observations made and recorded, extend to rooms, beds, food, clothing and conduct of the foster parents. Cases of suspected communicable diseases are isolated. Sick children are treated by other city physicians at cost of the sickness insurance or poor relief funds.

Foster parents must be approved by the central office. In many places visited in the city the dwellings were defective and crowded, especially where poor, unmarried mothers are compelled to live. Here one realizes the close connection of housing reform and infant mortality, for without the sharp and competent inspection of the women assistants good results would be impossible. The foster parents are paid about $1.25 a week.

Another tour of inspection with Dr. Taube, revealed the inner workings of the system in the rural colonies when the central office places children until their fourteenth year, at which time they are apprenticed. Each colony has from fifty to sixty wards in as many foster homes, and is placed under the supervision of a resident who is generally the village pastor. This superintendent is not paid for his services, but for outlays he receives about $1.25 a year for each child. In addition to this, the places are constantly inspected by trained visitors and physicians. Medical services are paid by the city.

A children's home supplements the municipal activity and comes under the same medical control. This institution was founded in 1878 by benevolent individuals and is especially designed for unmarried mothers, frequently domestics, before and after their first confinement. The woman can come several weeks or months before confinement and must promise to remain six months to nurse the child and, perhaps, some motherless infant. The housework is done by the inmates. Nurslings thrown on the care of the city are temporarily kept here. The institution also trains children's nurses. In the year 1910, 325 children were cared for, with forty-four deaths (13.5 per cent.). On the day of my visit in August, 1911, there were 110 children.

Since the year 1906, nursing premiums have been given to those mothers to whom nursing the child would involve a loss of earnings, or who, from poverty, could not give the breast without assistance. The weekly allowance is from 75 cents to $1.50, paid out by a mature and married officer at a place appointed for consultations. These premiums are not counted as poor relief. In 1908, there were, 1,316 requests for this aid, and $6,000 are in the city budget for the purpose. One private society gives aid to married mothers at confinement, and another gives attention to legal protection.

Sick and indigent illegitimate nurslings and children of dependent mothers are given milk through contracts made with several milk dealers who are required to supply milk at 5 cents a quart, 3 per cent. fat content being required. Dr. Seiffert's laboratory controls the quality of this milk, and all milk is also subject to inspection by the health office. Milk depots do not exist, "because they are too dear, are invoked too late and have a tendency to hinder breast feeding." The mothers are taught to boil milk when nursing.

At the end of 1910, of the 9,323 children who were on the records of the municipal office, 7,443 were under this general guardianship.

The collection of money from fathers is a necessary factor in reducing infant mortality. In 1910, 2,213 fathers of illegitimate children paid over $90,000. Since the beginning of 1900 more than $500,000 have been thus contributed. Where mothers are working for wages they are automatically insured against sickness and the fund provides medical relief. If there is no insurance the city physician is called.

The reduction of mortality of illegitimate infants from 33.4 per cent. in 1904 to 21.05 per cent. in 1910 is substantial evidence that the new methods are efficient. The mortality from summer diarrhea is lower with the illegitimate than with the legitimate children, because of the closer supervision of the former. The number of atrophic children at the end of the nursing period has sensibly diminished.

Moral results cannot be tabulated. But it is believed by the authorities that the more complete enforcement of the law tends to make men more thoughtful.

The lesson for American cities is obvious. We need a central and trained guardianship for all children who require protection. In a central municipal authority should be coordinated all the medical, legal and educational public forces. Public and private charity should be auxiliary and cooperative. The details must be worked out by study and experiment. The Leipsic organization is rich in hope and instruction.

To City Councillor Dr. Weber and to Private Sanitary Councillor Dr. Taube I am deeply indebted for explanations, documents and opportunity of seeing at close range, through a prolonged stay, the many activities of their department.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

[Note.—The pamphlets containing the outline of the postgraduate study course for county societies for the coming year are ready for distribution. Secretaries of county societies can secure supplies by writing to the Secretary, Council on Health and Public Instruction, American Medical Association, 535 Dearborn Ave., Chicago.]

First Month—Third Weekly Meeting

Angioma

Simple Nevus: Varieties, structure of each, distribution.

Cavernous Nevus: Structure, distribution, prognosis.

Plexiform Angioma: Structure, distribution.

Lymphangioma

Lymphatic Nevus: Microscopic changes, distribution.

Cavernous Lymphangioma: Structure.

Lymphatic Cysts: Structure, occurrence, distribution, prognosis.

Sarcoma

General Characters of Sarcoma: Vascular supply, metastasis, capsule, infiltration, lymphatic supply, secondary changes, distribution.

Round-Celled Sarcoma: Microscopic section, distribution, age, prognosis.

Lymphosarcoma: Microscopic section, distribution, age, prognosis.

Spindle-Celled Sarcoma: Microscopic section, distribution, prognosis.

ALVEOLAR SARCOMA: Microscopic section, origin, distribution.

MELANOSARCOMA: Microscopic section, pigment, origin, distribution, prognosis.

CARCINOMA

ORIGIN, MICROSCOPIC STRUCTURE, VARIETIES

GLANDULAR CANCER: Distribution, gross and microscopic appearances, lymph- and blood-vessels, secondary changes, differentiate from adenoma.

SQUAMOUS-CELLED CANCER: Distribution, gross and microscopic appearances, characteristic margin, infiltration, secondary changes.

Book Notices

THE HOUSE-FLY, DISEASE-CARRIER. An Account of Its Dangerous Activities and of the Means of Destroying It. By L. O. Howard, Ph.D. Cloth. Price, $1.60 net. Pp. 312, with 35 illustrations. New York: Frederick A. Stokes Co., 1911.

This is not a scientific treatise but a book for the general reader. Nevertheless, it is accurate and complete from a scientific standpoint. Probably none of our American entomologists is better fitted to write such a book than Dr. Howard. His first publication on this subject was in 1896, when he contributed the chapter on the life-history of the fly to a bulletin on household insects published by the Department of Agriculture. In 1900, he published a long paper on the transmission of typhoid fever by flies. This volume can be commended to all who wish to learn the life history, personal habits, dangers and means of exterminating the common house-fly, the constant companion of man for centuries. Unfortunately, the character of the fly does not improve with acquaintance. His origin is not only lowly but filthy. He is prolific to an extent beyond the reach of ordinary figures. For instance, Dr. Howard estimates that one fly, survivor of a winter, laying 120 eggs on April 15 will, on September 10, be the direct ancestor of 5,598,720,000,000 adult flies, of which one-half will be females. This is the opposite of race suicide for the fly, but something very like race murder for its human associates. The book is well written, copiously and illuminatingly illustrated and well printed. It contains practically all the important facts available regarding the house-fly and is admirably adapted for popular use. An extensive bibliography is found in the appendix.

THE NATURE OF ENZYME ACTION. By W. M. Bayliss, D.Sc., F.R.S., Assistant Professor of Physiology, University College, London. Second Edition. Cloth. Price, $1.20 net. Pp. 137. New York: Longmans, Green & Co., 1911.

This volume of "Monographs on Biochemistry"—the first one to enter a second edition—covers adequately and accurately this interesting and fundamentally important subject. Presented originally in the form of lectures, it is more easy to read and assimilate than treatises of this sort are likely to be, a point of particular favor in the eyes of readers who are interested in the subject only in its general aspects. In the new edition the more recent contributions to enzyme chemistry and the theories of enzyme action have been incorporated, the author assuming the reasonably conservative attitude necessary in considering a subject in which theorization is so prominent.

DIE NEURALGIEN DER TÄGLICHEN PRAXIS. Von Dr. O. Schellong, Arzt in Königsberg i. Pr. Paper. Price, 1.80 marks. Pp. 83. Berlin: Julius Springer, 1911.

This is an instructive monograph on a very practical subject. The author bases his conclusions on an experience with 438 persons suffering from neuralgia among a clientele of 2,631 patients. He first gives a general study of the subject and follows this by a detailed consideration of the different forms of neuralgia as manifested in different nerves. A considerable number of case-reports are inserted and the treatment is succinctly described. A few synthetic remedies are given a place, but there appears to be no tendency to overestimate them.

Medicolegal

Physical Examination of Female Plaintiff Required

(Illinois Central Railroad Co. vs Beeler (Ky.), 135 S. W. R. 305)

The Court of Appeals of Kentucky holds, in directing a new trial in this personal injury case, brought by the latter-named party, that a physical examination of the plaintiff *should be ordered, if asked for by the defendant.* It says that the plaintiff claimed that, as a result of her injuries, her monthly period was decreased to two weeks and she suffered from falling of the womb. An affidavit was filed, on behalf of the defendant, setting out the importance of having an examination made by some competent physician or surgeon, in order that the real condition of the plaintiff might be made to appear; and asked the court to appoint a physician and order that such an examination be made. The plaintiff objected, and filed affidavits to the effect that a medical examination could not be made to ascertain the extent of her injuries without offending decency and inflicting severe pain. No physician had made an examination to determine whether she in fact had the troubles claimed. Her family physician had only her word for it, but stated that he could easily determine by a physical examination whether the alleged troubles existed or not. In other words, here was a case where the injury complained of was not apparent. The plaintiff herself was the only person who gave any direct evidence as to her condition. Her physician did not make any physical examination, but simply took her word for her condition. Without a physical examination the defendant had no means of controverting any statement which the plaintiff might make. The character of her injury did not appear, and it was not a case from which the jury could otherwise determine the extent of her injury. In the court's opinion, this was a case in which the ends of justice would be better subserved, and the truth more likely discovered, by ordering a physical examination.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

California State Journal of Medicine, San Francisco

September

1 *Migraine H. C. Moffitt, San Francisco.
2 Consideration of Mental Defectives. R. Moore, Los Angeles.
3 Modern Operative Procedures in Ear Affections. H. B. Graham, San Francisco.
4 Control of Pathogenic Organisms in Butter. J. N. Force, Berkeley
5 *Determination of Sex in Human Species. D. McConnel, San Francisco.
6 Senile Skin. H. E. Alderson, San Francisco.
7 Some Types of Intestinal Indigestion in Young Children. L. Porter, San Francisco.
8 *Treatment of Tic in Childhood E. C. Fleischner, San Francisco.
9 Prophylaxis of Arthritis. C. C. Crane, San Francisco.
10 Removal of Foreign Bodies from Lung. E. C. Sewall, San Francisco
11 Occipito-Atlantoid and Atlanto-Axoid Dislocation. L. L. Thompson, Gridley.

1. **Migraine.**—Moffitt deplores the tendency to urge operation for the treatment of neurasthenia. He believes that more may often be accomplished for the man or woman with migraine by a rational mode of living, working and thinking than by drugs, eye-glasses or operation.

5. **Determination of Sex.**—This question the author claims to have studied in her own case, in other women and in animals. Her reasonings in the matter have led her to believe that the greater the differentiation the higher the species, the more limited the reproductive power the more confined the method of reproduction. All extraneous influence affecting reproduction in the lower orders has passed away in the higher, and the power to produce the female is vested, so to speak, not in the individual, but in the ovum. That is to say, no condition affecting the nurture of the mother herself has any power in determining the sex of the offspring, but it

is determined by some condition inherent in the ovum, and common to all women at certain times. The male element has no influence in determining the sex. The sex of the future child is determined at impregnation by the condition of the ovum at the time. The fullest development of the ovum produces the female after impregnation. The male is produced by impregnation either before the fullest development of the ovum, or after waste begins to take place. Given normal physical conditions of health in the woman, that is to say, menstrual period recurring every twenty-eight days and continuing five days, the ovum reaches its fullest development immediately before menstruation and continues to preserve that condition until two days after the cessation of the period. If fertilization takes place from one to two days before the period or from one to two days after the cessation of the period a female results, the latter method being the most successful. If fertilization takes place from four to eight days after the cessation of the period or from three to five days before menstruation the male results, the latter being unusual.

McConnel asserts that every experiment carefully carried out has resulted as desired, when the conditions of health and of physical development have been normal. She says further that if fertilization takes place from five to three days before the period a male results, and in that case menstruation demonstrates itself and the child appears to be born before its time; but if fertilization takes place just before the period, say from two to one days, a female results, and menstruation does not generally demonstrate itself, and the birth takes place three weeks later than it was expected. The count should be taken from the date of conception, whereas women count it from the cessation of the period; hence if a male is conceived days before the period, which for some unknown reason demonstrates itself in this case, he is born at a corresponding time, but the mother has counted from the cessation of the period and is out some eight days or so; whereas, if conception takes place immediately before the period a female results, but for some reason menstruation does not in that case appear and the mother counts from the cessation of the previous period and thinks she has had to wait some three weeks over her time. McConnel cannot account for these phenomena unless one may reason that if conception takes place immediately before the period that the ovum being then in its most perfect condition nature is satisfied, and the internal mouth of the uterus is closed; whereas if conception takes place some days before the fullest development of the ovum, the ordinary processes continue because the most perfect state of the ovum has not been accomplished although conception has taken place.

8. **Treatment of Tic in Childhood.**—The details of the treatment employed by Fleischner are as follows: (1) A very complete physical examination is made to be certain that the patient is not suffering from some irritation, such as follicular conjunctivitis, errors of refraction, polyps in the nose, adenoids, tight clothing, which may have been responsible, not for the tic, but for the original voluntary motion that preceded the tic and of which the tic movement is a repetition. (2) The patient is immediately taken out of school, if possible is sent to the country. (3) He is put on an easily assimilated diet, forcing the milk and eggs. (4) He is made to rest one-half hour before his meals and one-half hour after his meals. (5) The children are given very light evening meals and are put to bed within two hours of that time depending on their age. (6) Small doses of sodium or strontium bromid are given for two weeks. (7) Educational treatment. Under this heading are included those methods which enable the patient by training to control his involuntary partially or wholly subconscious movements. The method employed in the cases treated depends on the fact that the tic movements can be stopped by an effort of the will for a longer or shorter period of time by all patients. In other words, it depends on concentration. The effect of the treatment is obvious, the patient controls his tic by force of will.

Virginia Medical Semi-Monthly, Richmond

August 11

12 Diet—A Plea for Accurate Food Therapy. P. S. Roy, Washington.
13 The Economic Phase of Uncinariasis. W. A. Plecker, South Hill, Va.
14 Present Status of Surgery of the Brain and Spinal Cord. A. W. Fly, Galveston, Texas.
15 Personal Experience with Salvarsan. S. S. Gale, Roanoke, Va.
16 Achievements of the Nineteenth Century. S. Lile, Lynchburg.
17 Ileus. W. F. Waugh, Chicago.

Medical Record, New York

September 2

18 Hypophysis Cerebri. C. W. Hitchcock, Detroit, Mich.
19 *Stuttering, Its Origin and Treatment. N. J. P. Van Baggen, Hague, Holland.
20 Virtues of Salt Solution. J. M. Lynch, New York.
21 What Constitutes Hyperchlorhydria? C. S. Fischer, New York.
22 Roentgenotherapy of Malignant Tumors. A. Judd, New York.
23 Relation of Adenoids and Hyperthyroid Tonsils to Retarded Mental and Physical Development. E. B. McCready, Pittsburgh.
24 *Case of Tympano-Mastoiditis with Mental Symptoms. E. Amberg, Detroit, Mich.
25 *Extensives Herpes. G. O. Williams, Greene, N. Y.

September 9

26 *Action of Colloidal Platinum on Blood in Myelogenous Leukemia. H. Dayton, New York.
27 Clinical Uses of Sphygmograph. R. Van Santvoord, New York.
28 Michael Servetus and Discovery of Circulation of the Blood. J. Knott, Dublin.
29 Cancer. E. Atlee, Philadelphia.
30 Importance of Correct Hospital Records. R. E. Coughlin, Brooklyn.
31 Fracture of Inferior Maxilla Complicated by Complete Division of Facial Artery. W. C. Cramp, New York.
32 Aneurysm of Thoracic Aorta Treated by Abrams' Method. M. L. Turnbull, San Francisco.

19. **Treatment of Stuttering.**—The treatment resorted to in these cases in Holland is described by Van Baggen. The first thing to do when treating a stutterer, he says, is to give him a rest. So the stutterer is forbidden to speak. Some do not stutter when they speak in a whisper. These are allowed to whisper, but not more than is strictly necessary. At the same time exercises are given for breathing, vocal and articulating muscles. These exercises not only aim at the development of the muscles but also tend to favorably influence the nerve fibers associated to the muscle. Therefore the exercises must be carefully chosen in such a manner as to produce a quiet, regular movement of the muscles by means of which all stuttering is excluded. After some days the patient is allowed to speak, in the beginning only in the presence of the teacher and only for a few moments. At a later period when the patient does not stutter the discourses are prolonged. These early conversations, during which stuttering must be carefully avoided, are for the specialist one of the most difficult parts of the cure. They require the exercise of the greatest tact in leading the conversation in such a manner as to prevent the patient from stuttering. When the latter has spoken fluently for some days with his teacher without any stuttering he is allowed to converse a few moments with his family and friends. When we have succeeded so far we generally notice a rapid progress. The patient regains his self-confidence and the constant apprehension associated with his speech disappears; this has a favorable influence on the entire nervous system. When the cure is completed the patient must remain under the control of the specialist for some time, while also continuing the exercises with increasingly longer intervals. If there are adherent symptoms the exercises for the breathing, vocal and articulating muscles must be combined with slow, regular movements of the limbs. Those voluntary movements suppress the involuntary convulsions.

Van Baggen says, that when treating a stutterer it is necessary to take into consideration not only the manifest symptoms of the disease but also the temperament of the patient. The timid patient who suffers deeply from the humiliation entailed by his infirmity must be dealt with in a manner different from that with which one deals with the heedless stutterer who feels only the irksomeness of his impediment. The spoiled, undisciplined child requires firmer management, while the bashful little stutterer must be approached with kindness. The success of the treatment depends much on a good understanding between the patient and the specialist.

24. **Tympano-Mastoiditis Exhibiting Mental Symptoms.**—Amberg cites a case of mastoiditis in a hysterical subject, which was accompanied by such prominent mental symptoms as to cause grave suspicions of brain abscess. The patient recovered perfectly after a prolonged stay in the hospital.

25. **Extensive Herpes.**—The patient was a lady, aged 68. On March 8 the herpes appeared, simultaneously on the left upper lip, in the left naris, left inner canthus, in the left middle ear and external auditory canal from the meatus back. An enormous serosanious discharge accompanied the aural lesion, saturating cloth after cloth. The membrana tympani and the ossicles were carried away. Hearing was nil with the watch at contact. Illumination showed the pulsating arch of the auditory artery. Treatment consisted in a free application of a saturated solution of alum to the naris, the lip and the inner canthus, and instillation of the same freely into the auditory canal with boric acid. The external lesions were immediately subdued; the aural discharge became purulent. After a week the alum solution was dropped, and irrigation of the canal and subsequent boric acid packing continued. The purulent discharge gradually diminished.

On the twentieth day a narrow rim of new tissue was noticed at the seat of the destroyed membrane. The packing was dropped, and twice daily gentle irrigation was made with weak boric acid solution. The rim of new tissue increased and the lumen gradually diminished. The arterial pulsations remained visible until the complete closure of the opening. This occurred on the forty-second day.

26. **Action of Colloidal Platinum.**—Temporary leukolysis followed by polynuclear leukocytosis is reported as caused by injection of colloidal metals into normal blood or that showing polymorphonuclear leukocytosis. If polymorphonuclear leukocytosis could be induced in this manner in myelogenous leukemia by such injections, one might cause replacement of myelocytes by polymorphonuclear leukocytes, which change is said to accompany the improvement in this disease under roentgenotherapy. Dayton has administered isotonic, stabilized, electrically prepared colloidal platinum, in doses of 5 c.c. hypodermically, daily or every two days, to two patients with myelogenous leukemia. No constant effects on temperature, pulse, respiration or subjective symptoms were noted, and the disease apparently progressed as usual. The only correspondence in the blood changes with those reported as occurring in normal blood or that with polymorphonuclear leukocytosis was a temporary fall in the percentage of polymorphonuclear leukocytes, but this was not accompanied in both cases by a fall in the total leukocyte count. The neutrophil myelocytes coincidently rose and the mast cells fell. Aside from these changes, the variations in the blood were no greater than are common in this disease.

American Journal of Urology, New York

August

33 *Primary Malignant Neoplasms of Spermatic Cord. D. Stetten, New York.
34 Urology Past, Present and Future. M. Krotozyner, San Francisco.
35 *Complete Suturing of Bladder After Suprapubic Section. G. Kolischer and H. Kraus, Chicago.
36 Intravesical Operations for Tumors of Bladder. H. Binney, Boston.
37 Urethral Hemorrhages. A. Ravogli, Cincinnati
38 Attachment for Buerger's Urethroscope. V. C. Pedersen, New York.
39 Transperitoneal and Suprapubic Approach to Tumors of Bladder. C. L. Scudder, Boston.

33. **Primary Neoplasms of Spermatic Cord.**—The tumor in Stetten's case apparently develops from the areolar tissue of the cord. Microscopically it was a very cellular, mixed small and large spindle-cell sarcoma, as is also a nodule removed from the perineum. A nodule higher up in the cord also gave the same histologic findings. This latter nodule was apparently a metastasis in one of the spermatic veins. Many of the cells of the tumor showed active mitosis and the intercellular connective tissue was rather scant. The tumor was moderately vascular. A month later a small nodule was noted in the wall of the right lower abdomen, seemingly a thrombus in the right superficial epigastric vein. This was excised under local anesthesia and found to be a sarcomatous plug in the vein, of the same nature as the primary tumor. Three months after this second operation there was found a large mass involving the perineum and extending into the root of the penis, seemingly infiltrating along the vascular channels of the corpora cavernosa and corpus spongiosum and producing a psuedo priapism without greatly increasing the diameter of the organ. There was a large mass over the left saphenous opening, most probably a metastasis via the superficial external pudic vein. Two smaller nodules were found along the course of the left superficial epigastric vein and one in the left superficial circumflex iliac. The patient had a slight cough but no signs of fluid or consolidation in the chest. There were occasional moist râles. Abdominal examination was negative.

Stetten subjected the man to a course of treatment with Coley's fluid, which he stood well. He began with ¼ drop and increased the dose gradually to 5 drops every day, injecting the fluid directly into the tumors. There was a moderate general reaction and the nodules that were injected did really decrease in size. Soon, however, a new nodule appeared on the left chest wall; metastases were noted along the vessels of both arms; fluid appeared in both chests; an increasing edema of the penis, scrotum and lower extremities, due to actual compression, developed; cachexia became very pronounced and progressive, and the patient died 6 months after the first operation. No autopsy was obtained.

35. Abstracted in The Journal, Feb. 18, 1911, p. 536.

Journal of Abnormal Psychology, Boston

August

40 Psychoanalysis of a Mixed Neurosis. H. W. Frink, New York.
41 Some Psychologic Phases of Medicine. T. Burrow, New York.
42 Asymbolia. A. Gordon, Philadelphia.

Journal of Ophthalmology and Oto-Laryngology, Chicago

August

43 Enucleation of the Eye Under Local Anesthesia. D. T. Vail, Cincinnati.
44 Neoplasms of the Larynx. C. M. Robertson, Chicago.

Texas State Journal of Medicine, Fort Worth

September

45 *When We Are Wise and Otherwise. J. M. O'Farrell, Richmond, Texas.
46 *Surgical Treatment of Pellagra; Report of Sixteen Cases. T. J. Bennett and Z. T. Scott, Austin, Texas.
47 New Methods of Syphilis Diagnosis and Therapy. I. C. Chase, Fort Worth.

45. **Public Health and Vital Statistics.**—O'Farrell sums up his remarks as follows: When we are proud to register our live stock; when we teach young men how to care for the health and well being of our hogs, horses and cattle; when we extend to such stock the solicitous attention of a well-supported department of our national government; when we carefully conserve any national resources, spending as we do millions of the common fund for reclaiming vast areas of land for our people to occupy, we are wise. But, when we are careless about registering our babies; when we fail to teach our doctors how to protect the human health; when we do not properly safeguard our human food-supply; when we neglect the conservation of the most important of all our resources, because, forsooth, it does not appear merchantable, we are, most assuredly, otherwise.

46. **Surgical Treatment of Pellagra.**—The surgical treatment of pellagra by the transfusion of blood from a healthy donor to the patient originated by Cole and Winthrop of Mobile, was used in each of the sixteen cases reported by Bennett and Scott. The results have been gratifying, a cure in thirteen cases (73 per cent.), meaning no return of the symptoms to date. Of ten patients who either refused transfusion or were treated with medicine prior to the adoption of the transfusion method, seven are now dead, and three are awaiting transfusion at the present time.

Lancet-Clinic, Cincinnati

September 2

48 Neurasthenia Concept: Attempt at Its Systematization. R. Reed, Cincinnati.
49 Colles' Immunity. C. Arym, Milwaukee, Wis.
50 European Travel Notes. A. Schachner, Louisville, Ky.

September 9

51 Left-Sided Appendicitis, with Death from Preliminary Chloroform Anesthesia. V. Rawson, Danville, Ky.
52 Life Insurance Examiner's Responsibility. A. Maxwell, Indianapolis, Ind.
53 Laboratory for Psychiatry. B. Holmes, Chicago.

Boston Medical and Surgical Journal

August 31

54 *Causes and Treatment of Paralytic Dislocations and Subluxations of Hip-Joint. *J. W. Sever, Boston.*
55 Interstitial Gingivitis. E. C. Briggs, Boston.
56 Wound Diphtheria. F. A. Thompson, Fitchburg, Mass., and W. R. MacAusland, Boston.
57 Rupture of Uterus Through Posterior Vaginal Fornix. A. T. Hawes, Lynn, Mass.
58 Transplantation of Bone in Correcting Nasal Deformities. A. Coolidge and D. C. Greene, Boston.

54. **Paralytic Dislocations and Subluxations of Hip-Joint.**—The clinical history and dynamics of this condition are discussed by Sever. His interest was stimulated by twenty-six personal cases, twenty-two of which were iliac subluxations. Sever attempted to dislocate a hip in rabbits and cats, but, owing to the firm support of the ligaments and muscles, besides the unusually deep acetabulum, the short neck of the femur, which is at very nearly a right angle to the long axis of the shaft, and the high great trochanter, he found it impossible, even when using great force. He then decided to divide certain nerves singly and together in separate animals so as to produce a condition of paralysis of the hip and leg muscles, somewhat analogous to that seen in anterior poliomyelitis. This condition he could not reproduce exactly, for in cutting the nerve trunks he not only destroyed the motor impulses, but also the sensory. The five cats all lived about three months, long enough to show changes in the joint were any going to occur. On careful dissection and inspection no changes were visible, nor could the hip be dislocated. All of the cats but one had the anterior crural divided, in the other the great sciatic was divided.

Sever concludes that subluxations of the hip-joint are not uncommon conditions following paralysis of the thigh and peritrochanteric muscles. The most important factors in their production are the unopposed contractions of the non-paralyzed muscles. The two muscles which escape the paralysis most frequently are the adductors and the tensor vagina femoris. The most common type of subluxation is upward and backward on to the ilium. The changes from atrophy in the femur and acetabulum are practically constant, and consist of a coxa valga and a shallow, flattened and elongated acetabulum. The treatment should be directed toward correcting the contractions and reducing the dislocation of the hip. The muscles may be elongated by stretching, by means of plaster casts, bed traction or division. The best method in Sever's opinion of keeping the hip reduced is by means of an arthrodesis, although this is not practical in all cases. Without treatment the tendency is toward progressive deformity. With treatment the conditions may be permanently helped. Complicating conditions make a total cure impossible, but a more useful leg should be assured under proper treatment. Walking after arthrodesis is often improved. In some cases splints may be altogether discarded. Sever does not regard it advisable to do an arthrodesis on both hips, or on any joint other than the hip and ankle on the same leg.

American Medicine, New York

August

59 Hypothyroidea. G. E. Price, Philadelphia.
60 Plea for More Careful Estimation of Capacity of Female Pelvis During Pregnancy, with a Few Surgical Suggestions. J. G. Dickert, Brooklyn.
61 High Forceps Operation: Is It Modern Surgical Procedure? A. J. Rogny, New York.
62 Sodium Chlorid and Osmosis as Factors in Health and Disease. H. O. Beeson, Grand Junction, Colo.
63 Acute Nasal Discharge in Children; Diagnosis and Treatment. L. Kerr, Brooklyn.
64 Hygiene of Growing Girls. J. C. MacEvitt, New York.

American Journal of Surgery, New York

September

65 Surgical Essentials. F. E. Neef, New York.
66 *Arthroplasty for Ankylosis. J. Wiener, New York.
67 *Advantages of Curved Incision in Certain Classes of Surgical Work. A. Bowles, Ellsworth, Kan.
68 Undescended Testicle: Three Cases in One Family. G. B. Rhodes, Cincinnati.
69 Injury in Relation to Visceral Prolapse. J. J. Moorhead, New York.
70 Removal of Rubber Plate from Esophagus. Esophagoscopy Under Local Anesthesia. R. H. Johnston, Baltimore.
71 Two Cases of Tetanus Treated with Tetanus Antitoxin. I. S. Haynes, New York.
72 New Table for Cystoscopy. V. C. Pederson, New York.
73 Abdominal Hysterotomy for Removal of Uterine Fibroid. T. V. Arumugum, Bangalore, India.
74 Water Medium Cystoscopy vs. Kelly's Method. W. Ayres, New York.

66. **Arthroplasty for Ankylosis.**—The following points summarize Wiener's paper: Brisement force is useful in cases only of synovial adhesions; in true bony or fibrous union it is apt to do harm. The interposition of absorbable or non-absorbable foreign bodies does not give good results. The interposition of living tissues such as hernial or hydrocele sac is unsatisfactory, as bony ankylosis regularly results. Arthroplasty is a very valuable procedure in cases of bony or fibrous ankylosis of the jaw, shoulder, elbow, hip and knee. Either muscle, or fascia with fatty tissue, should constitute the interposed flap.

67. **Curved Incision in Surgical Work.**—The advantages Bowles claims for the curved incision, as compared with the straight, are the following: There is a better exposure of the subcutaneous field, giving much more room to work. Less retraction is required, and this means less assistance needed, fewer fingers in the wound, and consequently less danger of infection. In looking for a foreign body imbedded in the tissues, it is found more readily and with less traumatism. In removing a growth, a much better exposure of the sides and base is possible, rendering the work of dissecting and shelling it out far less difficult. In case the work calls for an incision into the muscular tissues, they are more accessible, and the intermuscular septa and lines of cleavage are more readily found than where the straight incision has been employed and retractors have to be used to haul the sides of the wound in one direction or the other. And lastly the incision is just as readily closed, and heals as well and as quickly. The points to be observed are to direct the base of [illegible] toward the source of the blood supply, especially in [illegible] which the depth of the flap is great in proportio[illegible] length of the incision. And if infection is feared, as [illegible] in which there is much dead space below the flap that [illegible] be perfectly obliterated, a small gauze or gutta-percha drain should be slipped in between two of the stitches or brought out through a puncture in the center of the flap.

West Virginia Medical Journal, Wheeling

September

75 Malpositions of Liver. L. Hupp, Wheeling.
76 Psychotherapeutic Value of Psychoanalysis. E. E. Mayer, Pittsburgh.
77 Glaucoma. E. R. McIntosh, Elkins, W. Va.
78 Displacements of Uterus. H. B. Jones, Wheeling.
79 Treatment of Summer Diarrhea of Children. H. G. Tonkin, Martinsburg, W. Va.
80 Treatment of Tuberculosis. L. F. Flick, Philadelphia.

Journal of Experimental Medicine, New York

September

81 *Studies with Electrocardiograph on Action of Vagus Nerve on Human Heart. G. C. Robinson and G. Draper, New York.
82 *Complement Deviation in Scarlet Fever with Comparative Studies of Wassermann and Noguchi Systems. J. A. Kolmer, Philadelphia.
83 *Addition to Technic of Cultivation of Tissues in Vitro. A. Carrel and M. T. Burrows, New York.
84 *Effect of Salvarsan on Heart in Dogs. J. Auer.
85 *Chemo-Immunologic Studies on Localized Infections. R. V. Lamar, New York.
86 *Rate of Regeneration of Blood Platelets. W. W. Duke, Kansas City.
87* Excretion of Dextrose in Stomach and Small Intestine. I. S. Kleiner, New York.
88 *Mechanism of Chlorin Retention in Pneumonia. F. Medigreceanu, New York.

89 Composition of Urinary Albumin. F. Medigreceanu, New York.
90 *Physiologic Study of Experimental Nephritis Due to Bacterial Poisons and Cytotoxic Sera. R. M. Pearce and A. B. Eisenbrey, Philadelphia.
91 Athrepsia. H. Apolant.
92 *Nerve Fibrillæ in Pulmonary Artery of Dog. H. T. Karsner, Philadelphia.
93 Studies of Pulmonary Circulation. H. C. Wood, Philadelphia.

81. **Action of Vagus Nerve on Human Heart.**—The authors' records show that stimulation of the vagus nerve by pressure in a man with an anatomically normal heart has produced a marked slowing of both auricles and ventricles, a depression of conductivity of the heart beat from auricles to ventricles, and probably has resulted in a diminution in the force of contraction of the left ventricle. Stimulation of the right vagus nerve apparently has caused stimulation of the left. The left vagus stimulation seemed to have a more marked effect on the conduction of the cardiac stimulus from auricles to ventricles. While no significant changes were noted in this case in the action current due to auricular contraction, right-sided vagus stimulation seemed to increase the action current of the ventricles, giving rise to an increased R wave, while left vagus stimulation apparently produces the opposite effect. There is no evidence in the curves that any changes in excitability of the auricles or ventricles are produced by vagus stimulation. The records supply definite evidence to the effect that the vagus nerve controls the heart in a way which is very similar in man and in other mammals. In hearts showing auricular fibrillation mechanical stimulation of the right vagus nerve causes, as a rule, marked slowing or stoppage of ventricular rhythm, without producing any appreciable effect in the electrocardiographic record of the auricular fibrillation. The ventricular pauses are apparently due to the blocking of stimuli from the auricles. The force of ventricular systole is distinctly weakened for several beats after vagus stimulation, and ectopic ventricular systoles have been seen in several instances, apparently the result of the vagus action. There may, in some cases, be lowered excitability of the ventricles, while no constant change is seen in the size of the electric complexes representing ventricular systole.

82. **Complement Deviation in Scarlet Fever.**—Sera from 250 cases of scarlet fever, representing all stages of the disease, were examined by Kolmer according to the following plan:

1. According to the Wassermann system with the following antigens: (a) With alcoholic extract of luetic liver used as antigen, there were five, or 2 per cent., positive reactions out of the 250 sera tested. In these five cases positive reactions also resulted with scarlet fever liver antigen and with active and inactivated serum of the Noguchi system. (b) With an alcoholic extract of scarlet fever liver used as antigen; the 250 sera were tested with this antigen. The antigen itself was tested with a number of normal and syphilitic sera and was found to be antigenic in dosage from 0.25 to 0.3 c.c., and free of anticomplementary and hemolytic action. The results were practically identical with those resulting from the use of the luetic liver antigen. Deviation of complement resulted in six cases, or 2.4 per cent. These included the five cases given above with the addition of a case which also gave positive reactions with active and inactivated serum, according to the Noguchi system.

2. According to the Noguchi system: (a) With active serum there were sixteen, or 6.4 per cent., positive reactions. Five of these were with the five cases yielding positive Wassermann results. In five, or 2 per cent., of the cases the reaction was positive with active serum alone, and negative with inactivated serum by both the Noguchi and Wassermann systems. In six cases the reactions were positive with both the active and inactivated serum. In other words, with the Noguchi system there occurred eleven more positive reactions than with the Wassermann system, five of these being with active serum alone. (b) The first ninety of these reactions were made with alcoholic extract of luetic liver used as antigen, and it is well to note that four of the positive reactions which were obtained with active serum were made with this antigen.

The remaining 140 cases were tested with an antigen of acetone insoluble lipoids from which but one positive reaction with active serum resulted. Complete hemolysis occurred in 229 cases, or 88.1 per cent., and partial hemolysis in twenty-one cases, or 11.9 per cent. The amount of complement, 0.1 c.c. of guinea-pig serum, was employed because this is the usual dose recommended, although serum from different animals varies in its complement content. It emphasizes the necessity of careful titration of complement, for an excess of this factor, up to a certain limit, will give hemolysis with a decreased amount of hemolysin. The presence of anti-sheep hemolysin in normal human serum probably accounts for the negative Wassermann reaction with serum containing small amounts of syphilitic antibody. On the other hand, normal active serum will give a positive Noguchi reaction. For these reasons Kolmer agrees with Kaplan that a Wassermann and Noguchi reaction should be performed with each serum, the one acting as a control on the other.

83. **Cultivation of Tissues in Vitro.**—It is emphasized by Carrel and Burrows that in the preparation of a culture in fluid medium, an important requisite is a suitable support for the growing cells. Although fibrin is an efficient support, it can be replaced by other bodies, such as cover-glass, cotton, silk, etc. The cells grow in the fluid only if they meet with this condition of support. Therefore, the fragments of tissue must be very small in order to remain adherent to the cover glass, and the fluid must be spread out in a very thin layer about them. The growing cells cling to and spread over the surface of the glass. But if cotton threads are placed in the fluid, the cells have a better support and grow luxuriantly around them. The plasmatic medium is, beyond comparison, the optimum medium thus far studied for the growth of tissues. But cells can also grow in other media and under many different conditions.

84. **Effect of Salvarsan on Heart in Dogs.**—It was found by Auer that the intravenous infusion of 0.5 per cent. acid salvarsan causes a weakening of the heart which is usually fatal. The intravenous infusion of 0.5 per cent. alkaline salvarsan causes no marked apparent effect on the heart, but its factors of safety may be so reduced in some instances that a slight extra strain produces fibrillation and death. The animals stood the infusion of salvarsan in 0.2 per cent. or 0.5 per cent. alkaline solution very well, even with the enormous doses infused (20 to 40 mg. per kilo of body weight). No marked changes of either heart volume, blood-pressure or heart-rate are recorded. In one instance the blood-pressure and heart-rate were practically unaltered after the infusion; the heart, however, showed a moderate dilatation which persisted for about twenty minutes after the infusion. Thirty-five minutes after the infusion, the heart was apparently normal. But on removing the heart from the oncometer, and handling it very gently, it passed at once into fibrillation, from which it did not recover. Similar effects were observed in other experiments where the alkaline solution was infused. On the other hand, some hearts of the same series of experiments stood manipulation very well, and only a very transitory change in the heart's action was observed. The infusion of 0.5 per cent. acid salvarsan produces swiftly a moderate dilatation of the heart; then the blood-pressure begins to fall and reaches a low level rather promptly. During this fall, the pulse pressure diminishes rapidly, and at the lowest level of blood-pressure the heart-rate is very slow. After a low blood-pressure has been reached, the heart dilates still more and may even stop in diastole for a period of seconds. Then the heart begins to beat again, but the beats are weak and hardly affect the lever of the membrane manometer which is connected with the carotid artery. From this state the animal does not recover, though the heart, as a rule, keeps on beating feebly for a number of minutes. Results similar to those described above were obtained in practically all of the ten experiments which were made with the 0.5 per cent. acid solution.

85. **Chemo-Immunologic Studies on Localized Injections.**—Lamar found that in the test tube, sodium linoleate and sodium linolenate kill and dissolve virulent pneumococci more rapidly and in higher dilutions than sodium oleate; otherwise

their action is the same. The intensity of action on the cocci is directly proportional to the degree of unsaturation of the acid. Blood serum inhibits the bacteriolytic and hemolytic action of unsaturated soaps partially or completely, according to definite quantitative relations between serum and soap. Small quantities of serum completely inhibit the action of dilute soap solutions, but even whole serum does not prevent bacteriolysis and hemolysis by relatively concentrated soap solutions, i. e., 1 per cent. and 0.5 per cent. A given quantity of serum inhibits the action of the soaps in inverse ratio to their degree of unsaturation. The hemolytic and bacteriolytic action of soaps of the unsaturated fatty acids is probably due in part to their avidity for protein and not wholly to their ability to dissolve lipoids. Attempts to prevent serum inhibition of the lytic action of sodium linoleate and sodium linolenate were unsuccessful. The more unsaturated soaps are not as efficient in preventing fatal pneumococci infection of animals as sodium oleate.

86. **Rate of Regeneration of Blood Platelets.**—By repeatedly withdrawing, defibrinating and reinjecting blood, it was evident to Duke that the platelet count in dogs can be reduced to an extremely low level. When the reduction in platelets and fibrinogen has been carried to an extreme degree the animals display a marked tendency to bleed. The regeneration of platelets after their removal by defibrination is remarkably rapid and amounts, on an average, to about one-fifth of the entire number in the blood per day. From the experiments and from observations on the platelet count in human beings, Duke believes that under the usual conditions of life platelets are utilized or destroyed and replaced in enormous numbers daily, and that the life-cycle of the platelet is extremely short, possibly a matter of a few days.

88. **Mechanism of Chlorin Retention in Pneumonia.**—The following conclusions are drawn by Medigreceanu from an analysis of the protocols of the experiments performed by him: 1. The chlorin output is very much diminished during the process of experimental pneumonia in dogs. The quantity of chlorin retained in the patients with well developed exudates is much larger than the exudate could account for. 2. Turpentine pleurisy in dogs also is associated with a retention of chlorin, but this is not so marked as in pneumonia. There is no direct quantitative relation between the water output and the chlorin excretion. 3. Rabbits with pneumococcal septicemia did not retain chlorin in any phase of the disease, a fact which Hutchinson has also noticed. The author deems it justifiable to conclude that the retention of chlorin in the organism in the course of pneumonia is conditioned by more than one factor. The formation of the exeduate is one of these factors, but it alone is not capable of producing the same degree of chlorin retention as occurs in pneumonia. The additional factors are not yet determined; but it may be stated that the retention of chlorin is probably not due to the general effect of the pneumococcus on the organism or to its injury to the kidney. The principal cause of the retention seems, therefore, to be due to local changes associated with the pulmonary condition.

90. **Experimental Nephritis.**—The physiologic study of experimental nephritis caused by poisons of bacterial origin demonstrated to Pearce and Eisenbrey that the poisons may produce types of nephritis in which either vascular or tubular changes predominate. Diphtheria toxin produces a nephritis which in its late stage is of the vascular type, but in its early stage is distinctly tubular. Tuberculin and mallein uniformly cause lesions of the tubular type, which do not pass into the vascular type. Nephrotoxic and hemolytic immune sera cause changes in the kidneys which by physiologic methods of observation present no evidence of vascular injury, but which are anatomically characterized by exudative glomerular lesions of moderate severity. This discrepancy between the results of anatomic and physiologic study indicates that a lesion of the membrane controlling the passage of fluids may occur without alteration in the power of the vessels to contract and dilate. This fact is shown clearly by the lesion caused by hemolytic immune serum, which is in sharp contrast to the lesion caused by diphtheria toxin, since the latter substance not only alters the *permeability* of the membranes but also influences markedly the power of the vessels to contract and dilate. It is necessary therefore if the term "vascular" is used in its broadest sense, to recognize three types of vascular nephritis: (1) one in which little or no anatomic evidence of vascular injury is found, but in which physiologic methods show profound vascular changes, as in arsenic nephritis; (2) one in which anatomic evidence of vascular (exudative) injury is prominent, but in which the physiologic tests are negative, as in nephritis caused by a hemolytic immune serum, and (3) one in which both anatomic and physiologic changes are prominent, as in diphtheria toxin nephritis.

92. **Nerve Fibrillæ in Pulmonary Artery of Dog.**—By a method of *intra vitam* staining with methylene blue Karsner succeeded in demonstrating the presence of nerve filaments in the muscular coat of the pulmonary artery.

Detroit Medical Journal

August

94 Medical Inspection of Schools. C. B. Fulkerson, Kalamazoo, Mich.
95 Importance of Recognizing Chronic Infections. H. H. Martin, Laporte, Ind.
96 *Right-Sided Abdominal Pain in Women.* J. Bland-Sutton.

Journal of Medical Society of New Jersey, Orange

September

97 Final Results in Surgery. O. Kiliani, New York.
98 Poliomyelitis Anterior. C. C. Beling, Newark.
99 Insanitary Housekeeping. J. W. Wade, Millville.

New York Medical Journal

September 2

100 Tendencies Toward Race Degeneracy. J. H. Kellogg, Battle Creek, Mich.
101 Nervous Affections in Relation to Adjustments of Eyes. G. T. Stevens, New York.
102 *Location of Pathologic Lesions of Genito-Urinary Tract from Epithelia Found in Urine, Proved by Operation. G. A. Wyeth, New York.
103 *Cerebral Rheumatism. E. M. Williams, Philadelphia.
104 *Triple Rhythm Heart-Block with Auricular Interruption. A. L. Benedict, Buffalo, N. Y.
105 Suction Drainage with New Form of Siphon Air Pump, as Means of Removing Pus and Blood from Abdomen and Pelvis. N. G. Bozeman, New York.
106 Research Work on Dysentery. S. R. Klein, New York.
107 Suicide in Registration Area. H. A. Brown, Washington, D. C.

September 9

108 Dilatation of Heart in Acute Fevers. H. Brooks, New York.
109 Arteriosclerosis, Cardiosclerosis and Intestinal Putrefaction. L. F. Bishop, New York.
110 *Greek, Ancient and Modern Language of Medicine.* H. C. Muller, Utrecht, Holland.
111 *Crotalin Treatment of Epilepsy. R. H. Spangler, Philadelphia.
112 Influence of Position in Relation to Occurrence of Mastoiditis and Its Complications. C. A. Adair-Dighton, Liverpool, England.
113 Treatment of Fractured Thigh by New Method, Involving the Treatment of Fractures in General. W. H. Taylor, Porse Arthur, *Ontario.*
114 Tendencies Toward Race Degeneracy. J. H. Kellogg, Battle Creek, Mich.
115 Treatment of Pneumonia Based on Elimination of Sodium Chlorid. H. G. Hughes, Schenectady, N. Y.
116 Curious Case of Tuberculous Meningitis. M. Freiman, New York.

102. **Genito-Urinary Lesions.**—It has often been stated that when scrapings are made from the different urinary organs the epithelia appear very similar and cannot be differentiated. This is probably true, says Wyeth, but such scrapings are no criterion for the differentiation of epithelia which are bound to become altered to a considerable degree by the scraping. If the epithelia are carefully studied *in situ*, it will soon be found that the epithelia lining the different organs are decidedly different, and they can undoubtedly be distinguished in the urine, so that a definite and correct diagnosis can be made in the great majority of cases.

103. **Cerebral Rheumatism.**—The interesting pathologic features of the cases reported by Williams in addition to the meningeal and cellular changes already described by other observers, are the presence of numerous cells similar in every respect to the so-called plasma cells, numbers of fatty granular cells, and also an abundance of globular, pale blue staining bodies, probably of albuminous nature, having their origin from the disintegrated tissue. The great intensity as well as the diffuseness of the cellular changes, Williams says, are exceptional, as is also the vast extent and degree of the neuronophagocytosis. He reviews the clinical history of this affection.

104. **Triple Rhythm Heart Block.**—In an individual studied by Benedict the arterial pulse was fairly strong and regular, twenty-five a minute. The jugular pulse was three times as frequent and in perfect triple time, but careful inspection of the neck showed that the auricular beat immediately preceding the ventricular, was imaginary, or, at most, so faint as to be imperceptible, although the perfection and steadiness of the rhythm at first gave the impression that we had to deal with a three to one ratio of auricular to ventricular contractions. Expressed in musical notation, the condition was as follows: The treble representing the auricular, the bass the ventricular beat. It is not, however, implied that the tone of either was exactly located. Benedict suggests that as heart block is a rare condition, with which no single physician can as yet have a large experience, it is perfectly possible that the rhythm may not be so constant for the individual case as has been implied in some articles, and that a failure of the auricle to beat at the proper instant may not be at all uncommon. It is also worth while to observe the jugular wave in normal cases and in cases of valvular lesion without suspicion of heart block. There is by no means always a single pulsation in the neck to each heart beat, but often two or three slight waves. Hence, in any case of bradycardia, one who has read much about heart block and has had little or no experience with it, but who has an ambition to detect a case, may deceive himself as to the occurrence of a succession of auricular impulses.

In Benedict's case there were two marked jugular waves with a rest at the instant when the third wave would be expected, and the condition seemed to correspond as closely as could be with the type, with the exception noted. But, without kymographic experiments, Benedict says that with a very slowly acting ventricle and a firm closure of the auriculoventricular valve, it is conceivable that a double wave might occur in the blood in the auricle and great veins, without any secondary contraction of the auricle. Theoretically, the auricular contraction in the musical notation should be indicated as preceding the ventricular. Practically, it seemed to occur at exactly the same time as the radial pulse.

111. **Crotalin Treatment of Epilepsy.**—The solution which Spangler finds most satisfactory and effective consists of the dried, crystal-like scales, from the venom of *Crotalus horridus*, dissolved in sterile water, to which has been added a few drops of trikresol for its preservation and antiseptic effect. This sterile, antiseptic solution is put into sterilized ampoules, holding 1 c.c. each and sealed. Each ampoule contains one dose, which is made as strong as desired, i. e., each c.c. of solution represents 1/22, 1/75, 1/100 of a grain of the venom.

Included in the thirty-six cases cited by Spangler are twenty-four patients who were subject to only major attacks, grand mal; eleven who were subject to both major and minor attacks, and one in whom only the petit mal form was present. In nine out of the thirty-six cases the convulsions occurred in series.

A family history of epilepsy was present in nine of these cases; alcoholism in four; insanity in three; and in the remaining twenty cases of the series the family history was negative, so far as hereditary influences are usually considered. Four cases were preceded by convulsions in infancy, two by chorea, three by scarlet fever, and in one case epileptic attacks developed while the eruption of measles was present. Two cases followed attacks of typhoid and one case followed a heat prostration. There was a history of a fall (traumatism) in four of the cases, and of a severe fright in three. Menstrual irregularity was associated with the convulsions in four patients out of the series. In the remaining thirteen cases nothing of interest or importance could be elicited in regard to the previous history of the patient. The form of epilepsy most influenced by the venom is the so-called idiopathic or genuine epilepsy, for which there is no ascertainable cause. The patient may be subject to either the major, grand mal attacks, or the minor, petit mal, form may be the only evidence of the disease. In a number of Spangler's cases the grand mal type was replaced by the petit mal seizures before the intervals between the attacks were much lengthened.

The organic epilepsies, including those forms arising from traumatic lesions of the skull or brain, or those forms associated with focal organic disease of the brain, such as tumors, cannot be expected to yield to the venom treatment. Likewise, no influence on alcoholic epilepsy or epilepsy arising from uremic or eclamptic conditions can be looked for. While only three cures are reported by Spangler the general improvement in the patient's mental and physical condition was such as to lead him to urge the use of this remedy in these cases.

Wisconsin Medical Journal

August

117 *Ileocecal Adhesions. F. G. Connell, Oshkosh, Wis.
118 Cancer of Upper Rectum and Sigmoid Flexure. K. W. Doege, Marshfield, Wis.
119 Intraperitoneal Rupture of Urinary Bladder: Report of Case, Resulting from Automobile Injury. E. L. Mason, Eau Claire, Wis.
120 Relation of Physician to Animal Experimentation. W. Rittenhouse, Lake Geneva, Wis.
121 Traumatic Neuroses. A. W. Rogers, Oconomowoc, Wis.

117. Abstracted in The Journal, July 22, 1911, p. 314.

Laryngoscope, St. Louis

August

122 The Teaching of Oto-Laryngology in Under-Graduate and Post-graduate Medical Schools. S. M. Smith, Philadelphia.
123 Vasomotor Disturbances of the Upper Air Tract. C. W. Richardson, Washington, D. C.
124 Case Reports Illustrating Ocular Affections Due to Intranasal and Accessory Sinus Disease. L. A. Coffin, New York.
125 Primary Tuberculosis of the Nose. C. D. Van Wagenen, New York.
126 Two Cases of Tuberculosis of the Nose. W. B. Chamberlin, Cleveland.

St. Louis Medical Review

August

127 Man as Geologic Species in Western Hemisphere. A. S. Ashmead, New York.
128 Autumnal Fevers. G. B. Dorrell, Springfield, Mo
129 Ovariotomy. D. D. DeNeen, Cincinnati.
130 Diet in Typhoid. D. W. Reed, Greeley, Colo.
131 Acute Primary Nephritis in Children. A. Bamberger, Chicago.
132 Relation of Alcohol to Hygiene. H. W. Knight, Rutland, Pa.
133 Balsams. J. Knott, Dublin, Ireland.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

August 26

1 Spa Treatment, with Special Reference to Moffat. D. Huskie.
2 *Tuberculin Dispensaries. W. C. Wilkinson.
3 *Bacteriology of Toothbrushes. H. Smale and D. W. Carmalt-Jones.
4 *Frenkel System of Exercises for Tabes. J. G. Garson.
5 Dental Disease from Standpoint of Physician. R. J. E Young.
6 Dentistry and the Public. C. Howkins.
7 Two Abnormalities of Dental Tissues. A. W. Wellings.
8 Pathology of Unerupted Teeth. J. G. Turner.
9 Dental Caries from Public Health Standpoint. J. Wheatley.
10 Infant Feeding. C. E. Wallis.
11 Bread Question. J. S. Wallace.
12 Abuse of Sweetmeats. A. Hopewell-Smith.

2. **Tuberculin Dispensaries.**—Evidence that proves the hollowness of these pretensions that stay in sanatoriums, combined with graduated exercises, can help the poor suffering from consumption is given by Wilkinson. He says that both rest and graduated exercise have long been employed in Germany in the treatment of consumption at sanatoriums, and the results of sanatorium treatment among the poor in Germany lend no encouragement to the view that sanatoriums can help the poor. Moeller, of the famous Belzig sanatorium, near Berlin, claimed that sanatorium methods by themselves cure only 10.9 per cent. of the patients. Arranged according to stages the results were: Stage 1, sanatorium methods alone cured 31.8 per cent. Stage 2, sanatorium methods alone cured 1.9 per cent. According to Moeller's later experiences, sanatorium methods alone may effect a cure in 25.3 per cent. of the cases of pulmonary tuberculosis of Stage 1 (German Board of Health classification), while tuberculin has secured the same results in his hands in 84.6 per cent. Weicker, the devoted pioneer of the Volks-sanatoriums of Germany, found that of every 100 patients treated in sanatoriums by rational methods alone, including exercises, at the end of one to one

and one-half years, forty-one; at the end of two to two and one-half years, fifty-one; at the end of three to three and one-half years, sixty-five, and at the end of four years eighty had lost their fitness for work or were dead. The death-rate was as follows: In one to one and one-half years, 25 per cent.; in two to two and one-half years, 38.4 per cent.; in three to three and one-half years, 55 per cent.; in four years, 56.7 per cent. Wilkinson emphasizes further that the aspect of sanatorium treatment is not encouraging when we read that 7.6 per cent. of patients in Stage 1 are unfit to work or are dead in one to one and one-half years, 19 per cent. in two to two and one-half years, 33.3 per cent. in three to three and one-half years, and 55.6 per cent. in four years.

Wilkinson insists on tuberculin serodiagnosis and serotherapy in tuberculosis. He endorses the dictum of Koch that in Stage 1 tuberculin cures pulmonary tuberculosis with certainty and that the routine use of tuberculin in the second stage of pulmonary tuberculosis is the best means of preventing mixed infections in all forms of open pulmonary tuberculosis. He knows no contraindication to the use of tuberculin except despair. Within the last year he has treated at his tuberculin dispensary more than 100 patients with pulmonary tuberculosis in all stages, and apart from the cases of mixed infections, always in an advanced stage of the disease, he has been unable to find any limitation circumscribing the use and value of tuberculin. Wilkinson admits, however, that it is not wise, except with certain precautions, to use tuberculin in cases of well marked renal disease. Renal disease is in itself, sooner or later, fatal, and there is not much object in curing a tuberculous lesion when there already exists a disease which in itself is likely to be fatal. By a proper course of tuberculin treatment, it is almost the rule that cough and expectoration cease, so that the victims themselves cease to be a danger to their friends and relations.

3. **Bacteriology of Toothbrushes.**—It is claimed by Smale and Jones that a toothbrush becomes septic after once using, each hair becoming an inoculation needle, and the person using it may be vaccinated with such germs as flourish on it. The toothbrush, therefore, as popularly used, namely, for many months, may be the origin of pyorrhea alveolaris, which may lead to such grave consequences as anemia, gastritis or arthritis. The prevalent tooth powders and tooth pastes as usually used do not render the toothbrush aseptic, and even 1 in 20 carbolic acid is not effectual in so doing. The authors insist that all toothbrushes should be boiled for five minutes before and after use. A new toothbrush can be used each day. Those wishing for a more prolonged use of a toothbrush can rinse the brush in trikresol (1 per cent.) or allow it to stand between use in formalin (10 per cent.). Their remarks are based on extended experiments.

4. **Frenkel System of Exercises for Tabes.**—A case is reported by Garson as illustrating the beneficial effects which result from the systematic practice of the exercises designed by Frenkel of Heiden for restoring the power of coordinate movements in persons affected by tabes dorsalis. It shows how a person who has been reduced to a state of almost complete invalidism may by this means regain the power of locomotion so as to be able to live a comfortable and useful life.

Lancet, London

August 26

13 The Students' Number, Session 1911-1912.

Tropical Medicine and Hygiene, London

August 15

14 *Clinical Varieties of Undulant (Malta) Fever Met with in South Africa. A. Garrow.

15 *Pemphigus Contagiosus. R. H. Castor.

14. **Malta Fever in South Africa.**—This paper is founded on an experience with Malta fever extending over three years, during which time Garrow has been in practically daily contact with the disease or its sequelæ. He thinks that every case that one is likely to meet will find a place in one or other of the following groups: (1) *Acute type*—(a) malignant cases; (b) one-wave cases; (c) more than one-wave, or the undulant cases. (2) *Subacute type.* (3) *Chronic type.* (4) *Complicated,* including those cases which first come under observation on account of a complication or sequela of Malta fever, or during a concurrent illness. The clinical manifestations in a case of the chronic type are so entirely different from those found in one of the acute varieties that, but for the Widal test, Garrow says, it would be impossible to believe that both patients were suffering from the same disease. There is a connection, however, running throughout all the varieties, and the best conception of that is gained by remembering that the undulant type is what might be termed the central type. All the other types are but variations of it, depending on varying combinations of such factors as the quantity of the virus and the virulence of it, and the state of the defense forces of the patient. The undulatory type is characterized by intermittent waves or undulations of more or less remittent pyrexia of variable length and number, separated from one another by periods of variable length of temporary abatement or absence of symptoms. The acute one-wave type designates those cases characterized by simply one wave or undulation of varying length and severity, followed usually by a convalescence and recovery. The malignant type includes those acute cases characterized by great severity of symptoms and profound toxemia, and generally resulting in death. On the other side of the central type are the subacute and the chronic, in which, owing, perhaps, to a weakened virus, or a smaller quantity of it, or to more sluggish action of the defense forces of the body, the pyrexia is more or less subdued. The cases which go to form the complicated type are in the majority of cases subacute or chronic. Examples of each type are cited. Of the complicated type the following cases are mentioned: Pulmonary-pleural; hepatic; renal; nervous; simulating hip-joint disease.

15. **Pemphigus Contagiosus.**—Castor points out that pemphigus contagiosus is fairly common in Burma, contrary to the belief hitherto held. He recently came across six cases in one family. In three of these patients the eruption first appeared on the chin; in one it appeared on the forearm, in another it appeared on the abdomen, and in the infant on the forehead. The usual places, like the crotch, axilla, etc., were not attacked. The course the eruptions followed was the usual one. The sizes of the vesicles varied from a pea to about those covering the area of an inch. They did not affect the general health of the children. In one case there were only two vesicles, in another there were four. One case showed ten vesicles, and in the others there were several. The most diffused cases were in the children aged 10 months and 3 years, respectively, and in these two cases they gave rise to much discomfort and irritation. The cases lasted from one to three weeks. The treatment was cleanliness, frequent use of mercury lotion, and antiseptic powder dusting.

Annales de Gynécologie et d'Obstêtrique, Paris

July, XXXVIII, No. 7, pp. 385-448

16 Tedious Labor from Lack of Synergy in the Contractions of the Uterus. (Un accouchement ennuyeux par manque de synergie dans la contraction utérine.) A. Herrgott.

17 *Influence on Nursling's Syphilis of Injection of Salvarsan in the Mother. (Le salvarsan injecté à une mère en période d'allaitement peut-il influencer la syphilis de son nourrisson?) E. Jeanselme.

18 When Does the Head Become Engaged in Vertex Presentation? (Nouveaux documents sur l'époque de l'engagement dans les présentations du sommet.) Audebert and Baux.

17. **Can Syphilis in the Infant be Influenced by Injecting the Nursing Mother with Salvarsan?**—Jeanselme reports seven cases in which salvarsan was administered to the nursing mother, and compares the outcome with seven other cases that have been reported by others. In only six cases were beneficial results evident, and in these cases the infants were not kept under observation long enough for a decisive judgment as to the value of the method. The salvarsan injected into the nursing mother sometimes induces evident retrogression of the superficial lesions of the nursling, but they generally soon recur and sometimes in a more pronounced form. The deep or visceral syphilitic lesions are not benefited and may even become fatally aggravated under the influence of the injection in the mother. Before applying this indirect method of treating the infant, the condition of the principal viscera should be investigated and it should not be applied if they are found much impaired. Inunction with mercury proved suc-

cessful in arresting the serious symptoms of inherited syphilis which had resisted the indirect method of salvarsan treatment in his cases.

Archives des Maladies du Cœur, etc., Paris

August, IV, No. 8, pp. 481-544

19 *Paralysis and Neuritis from Deficient Supply of Blood. (Paralysie et névrite d'origine ischémique.) R. Desplats and A. Baillet.
20 Digitalis. E. Robert-Tissot.
21 Case of Typhoid Bradycardia. Pierret and Darteville.

19. **Ischemic Paralysis and Neuritis.**—Desplats and Baillet present evidence to show that total or complete, durable or transient interference with the supply of blood to a peripheral nerve may entail serious functional disturbance and even degeneration of the nerve. When the ischemia is incomplete. as in Raynaud's disease, there may be paresis or paralysis without loss of electrical irritability. Complete ischemia is liable to entail neuritis, but if the circulation can be reestablished early the neuritis may rapidly retrogress before the nerve has become irremediably degenerated. If on the other hand the blood-supply is permanently shut off, degeneration of the nerve seems inevitable. Four cases of the various types are reported and compared with the few similar ones in the literature, especially with the fourteen cases of atrophy and paralysis following ligation of an artery, cited by Porta and Broca. The electric excitability of the nerve was not tested in these cases, but, taken in connection with the personal cases reported, they sustain the possibility of a paralysis. spreading out funnel-shaped, with degenerative neuritis, solely as the result of interference with the blood-supply. In the cases reported there had been no compression of the nerve sufficient to account for the disturbances. The theory of an ischemic origin for paralysis and neuritis in certain cases explains also those that follow severe chilling, as this interferes more or less with the circulation in the region.

Bulletin de l'Académie de Médecine, Paris

July 18, LXXV, No. 29, pp. 67-77

22 Spinal Anesthesia. (Rachianesthésie.) P. Reclus and E. Schwartz.

July 25, No. 30, pp. 78-108

23 *General Anesthesia with Part of Circulation Excluded. (De l'anesthésie générale avec circulation réduite ou exclusion des quatre membres dans l'anesthésie générale.) H. Delagénière.

23. **General Anesthesia with Part of Circulation Excluded.**—Delagénière has applied the method according to Klapp's technic in 1,144 cases, using chloroform, and in 35 with ether. An elastic band is applied to the upper part of each leg and arm, drawn tight enough to arrest both arterial and venous circulation. When the constriction is removed, the blood and tissues thus excluded from contact with the anesthetic, dilute and take it up rapidly. The patient rouses at once or in about ten minutes, and the postanesthetic disturbances are reduced in frequency and intensity. In case of accident, removing one or more of the bands flushes the system with fresh blood and starts up the respiration anew. The members feel a little numb or there may be minute ecchymoses, and postoperative phlebitis developed in four of his total 1,179 cases, but in three of these cases the operation had been for a gynecologic trouble and the edge of the inclined plane or the leg supports may have been responsible for this complication. Heart and vascular disease or general infections may contra-indicate the method in certain cases, but he asserts that it has special superior advantages in all cases of kidney and liver disease.

Lyon Chirurgical, Lyons

August, VI, No. 2, pp. 121-248

24 *Perforating Sigmoiditis. (D[illegible] [illegible] sigmoidiennes perforantes avec péritoni[illegible] [illegible] M. Patel.
25 *Experimental Grafts of Ar[illegible] [illegible] expérimentales sur les greffes vasculair[illegible] [illegible]rd, L. Tavernier and E. Perrin.
26 *Conservative Treatment of Osteosarcoma. G. Tisserand.

24. **Perforation from Inflammation at the Sigmoid Flexure.**—Patel discusses the diffuse peritonitis from simple inflammation at the flexure causing perforation. He has compiled twenty-eight cases, all but eight being in men over 35. The trouble is traceable to a diverticulum in most cases, he thinks. The details of fourteen cases are given in which an operation was attempted and of fourteen without, all confirmed by necropsy. An early operation and modern methods of managing the peritonitis may yet succeed in saving patients, although to date he knows of no case of recovery.

25. **Experimental Grafts of Arteries.**—The experiences related show the factors to be especially heeded in surgery of blood vessels. The work was done on twelve dogs.

26. **Conservative Treatment of Osteosarcoma.**—In the two cases reported by Tisserand the treatment gave perfect functional results. The patients were girls of 13 and 20 and the growth was in the fibula in one and in the ulna close to the wrist in the other. He ascribes the fine outcome to the fact that he was able to leave intact the lower end of the ulna articulating with the wrist. A flap of periosteum was left when the segment of fibula was removed and the bone regenerated from this.

Presse Médicale, Paris

August 5, XIX, No. 62, pp. 641-648

27 *Salvarsan and the Auditory Nerve. (606 Ehrlich-Hata et troubles labyrinthiques.) E. Félix.
28 *Sudden Death in Scarlatinal Myocarditis. E. Weill and G. Mouriquand.

August 9, No. 63, pp. 649-656

29 Experimental Syphilitic Orchitis. (Production d'orchite syphilitique chez les lapins à l'aide de cultures pures de Treponema pallidum.) H. Noguchi.
30 *Relative Frequency of Symptomless Tuberculous Infection and Tuberculosis at Different Ages. A. Calmette, V. Grysez and R. Letulle.

27. **Salvarsan and the Internal Ear.**—Félix reviews forty-six articles that have appeared on syphilitic lesions of the auditory nerve with or without administration of salvarsan or any preparation of arsenic. Without deciding whether the salvarsan is or is not responsible for the disturbances in the labyrinth that have been observed after its use, he remarks that the data cited confirm the importance of careful examination of the ear before giving salvarsan and refraining from its use in case there is evidence to show that the organ of hearing and equilibration was impaired before the patient had contracted syphilis. The occupations which predispose to ear disturbances, such as boiler-making, and a history of an old internal ear disease, should positively exclude the patient from salvarsan treatment, and the greatest caution is necessary in employing salvarsan if the patient has been taking arsenic for some time in any form. He reports a personal case in which a young man became suddenly deaf, with tinnitus and vertigo, two weeks after an injection of salvarsan, the sixth week after contracting syphilis. It was learned that the young man for several years had been slightly deaf in one ear. In another case, years before salvarsan had been heard of, a patient developed deafness and tinnitus three weeks after infection with syphilis; Delsaux has reported a similar case one month after the primary sore; Rozier has reported a case in which the primary sore and the labyrinthitis developed almost simultaneously; Stümpke two with an interval of four and five months; Politzer reported in 1901 a case in which the interval was only a week, and Habermann in 1896 reported sixty-six cases of syphilitic labyrinthitis with intervals of only three to nine weeks between the primary sore and the internal ear trouble in sixteen. All of these cases preceded the discovery of salvarsan.

28. **Sudden Death from Scarlatinal Myocarditis.**—Weill and Mouriquand assert that myocarditis is the cause of sudden death in convalescents from scarlet fever much more frequently than is generally recognized, and cite a case in which a girl of 15, apparently recovered from a mild attack of scarlet fever, died suddenly while at stool. In another case an infant of 18 months had been in the diphtheria ward for a month on suspicion of diphtheria but with negative bacteriologic findings. Then a scarlatinal eruption developed and faded and the child was apparently doing well when it suddenly died. Necropsy revealed acute myocarditis, notwithstanding the total absence of myocarditic symptoms during life.

30. **Relative Frequency of Symptomless Tuberculous Infection and Tuberculosis at Different Ages.**—The tuberculin skin test was applied to 1,226 children at Lille and the children

were examined the fifth or sixth day thereafter, a control scarification without tuberculin having been made on each. A positive reaction was observed in 8.7 per cent. of the 273 children less than a year old; in 22.1 per cent. of the 145 between 1 and 2; in 53.8 per cent. of the 206 between 2 and 5; in 81.4 per cent. of the 366 between 5 and 15, and in 87.7 per cent. of the 236 over 15. And yet, notwithstanding the large number of children shown by the tuberculin test to be infected, only an average of 24 per cent. develop tuberculosis later; that is, this is the death-rate from tuberculosis in the town. All the others, fully 66 per cent., escape tuberculosis, the infection remaining permanently latent or occult, while the subjects are apparently healthy and succumb in time to entirely different diseases. Calmette concludes by emphasizing the necessity for distinguishing between the occult infection revealed merely by the tuberculin tests, and tuberculosis, "the disease characterized from the beginning by the follicular lesions resulting from the symbiotic existence of the tubercle bacillus with the cells of the different organs."

Semaine Médicale, Paris

August 2, XXXI, No. 31, pp. 361-372

31 *The Arcus Senilis or Crescentic Degeneration of the Cornea in the Aged. (Structure et pathogénie de l'arc sénile.) P. Marie and G. Laroche.

August 9, No. 32, pp. 373-384

32 *Geographical Distribution of Pneumonic Plague. (Les applications de la géographie médicale à l'étude de la peste pneumonique.) J. Guiart.

August 16, No. 33, pp. 385-396

33 Perithelioma an Illogical and Artificial Term. (Le périthéliome.) G. Roussy and P. Ameuille.

31. **Arcus Senilis.**—Marie and Laroche present evidence to prove that the greyish crescent is in reality a deposit of cholesterin. Research on the lipoids and cholesterin in different tissues and in the blood seems to promise to throw light on certain hitherto obscure points and suggest unsuspected connections between them, such as in the effect of epinephrin injected into animals which entails both atheroma and hypercholesterinemia.

32. **Medical Geography of the Plague.**—Guiart shows by historical review and five maps how pneumonic plague seems to be restricted to the region between the isothermal lines of 5 and 10 C. (41 and 50 F.), apparently being favored by cold; the epidemics to date have broken out in the winter. Europe, lower Canada, the upper Missouri and British Columbia are in the region involved. Bubonic plague on the other hand clings to the region between the isothermal lines of 20 and 25 C. (68 and 77 F.) and a certain amount of heat is necessary for its spread.

Archiv für Verdauungs-Krankheiten, Berlin

August, XVII, No. 4, pp. 395-510

34 *Estimation of Stomach Functioning. (Ueber die funktionelle Magenuntersuchung.) A. Galambos.
35 **Indirect Estimation of Amount of Stomach Content. (Modification de la méthode Mathieu-Rémond.)* A. Laboulais and R. Goiffon.
36 *Idiopathic Enlargement of the Esophagus. (Speiseröhrenerweiterungen.) S. Mintz.
37 *Colitis from Mercurial Poisoning. (Experimentelle Beiträge zur Entstehung der Colitis mercurialis.) H. Cobliner.
38 Chronic Perisigmoiditis: Two Cases. M. Simmonds.

34. **Estimation of Gastric Functioning.**—The aim of Galambos' research was to compare the history of the case with the objective findings and with the findings with the test breakfast, striving to determine the differential value of the patient's story and the objective findings. He thus investigated eighty-six patients, giving 103 test breakfasts, and tabulates the findings under various headings. They show among other things that the various symptoms of something wrong in the stomach may be encountered in about the same ratio of cases with excessive, deficient or lacking gastric secretion and chronic gastritis; none is pathognomonic of any. He accepts, on the whole, Stiller's asthenia universalis, although the frequent exceptions to the rule may lead to erroneous conclusions. When the gastric secretion fluctuates irregularly from excess to deficiency, hysteria may be assumed, he declares, mentioning further that when blood is found in the stomach content in case of cancer, ulcer or erosion, the white leukocytes are generally numerous in it on account of the inflammatory conditions. If the proportions of red and white corpuscles are the same as in the circulating blood, then it is more probable that the bleeding has been caused by some injury from the stomach tube. He describes some cases to illustrate his points, urging that functional examination should never be omitted except in case of the well known *contra-indications* to the stomach tube, and especially not in nervous dyspepsia, on account of its suggestive action.

35. **Indirect Method of Estimating Amount of Stomach Content.**—Laboulais and Goiffon have modified the Mathieu method, as mentioned already in The Journal, April 2, 1910, page 1175. They use a titrated solution of sodium phosphate; after this is poured into the stomach and well mixed with its content by aspirating the fluid out and pouring it in again several times by raising and lowering the funnel, they withdraw some of the fluid and compare its concentration with that of the original, 1 to 1,000 phosphate solution. The method is *more exact the smaller the amount of stomach content.* After siphoning out a certain amount of stomach content, a given amount (q) of a solution of sodium phosphate of the concentration n is poured into the stomach and mixed *with its contents.* Some of the contents is then removed and its concentration estimated (n′), from which it is a simple matter to compute the amount of fluid in the stomach as it will equal n q — n′ q divided by n′.

36. **Idiopathic Enlargement of the Esophagus.**—Mintz gives the radiographs of several puzzling cases of idiopathic dilatation of the esophagus, comparing them with the history of the case and stating that in nearly every case there is a spastic stricture at the cardia, either primary or secondary, and that all trouble subsides as a rule when this stricture is conquered. Sedatives internally to control the stricture never benefited in his experience, nor galvanization, and recurrence followed generally in the cases in which Hacker's method of "sounding without end" was applied. Permanent recovery was obtained by Mikulicz in five out of six cases in which he *forcibly stretched the cardia with forceps introduced through* an opening into the stomach, and others have obtained equally favorable results with this measure and Reisinger from resection of the dilated portion. Temporary relief can be obtained by repeatedly rinsing out the dilated esophagus. Mintz is inclined to believe that many cases of supposed diverticulum in the esophagus in reality were merely a general enlargement. The various means of differentiation to date are not reliable, he says, and the Roentgen pictures only when taken with instantaneous exposures.

37. **Mercurial Colitis.**—A man of 52 was ordered to take pills of bichlorid of mercury for two weeks after an operation for glaucoma, but he continued to take the pills for four months, the daily dose being thus 0.01 gm., or 0.15 grains. Ulcerative colitis developed with diarrhea and the patient succumbed the fifth month to the results of perforation of an abscess in the rectum. There had not been any marked subjective disturbances at any time, no stomatitis, and all the organs appeared intact except the large intestine. Cobliner reports experimental research on mercurial poisoning which seems to show that the mercury circulates in the blood in the form of the albuminate and is eliminated into the intestine. A toxic action is evident when mercury ions are liberated, and incorporation of large amounts of salt splits off the ions and thus increases the toxicity of the mercury. The elimination of the mercury into the intestine can be promoted by irritating substances and reduced by sedatives.

Berliner klinische Wochenschrift

August 21, XLVIII, No. 34, pp. 1541-1584

39 Histologic Study of Three Melanoblastomas. C. Kreibich.
40 *Criticism of Practical Importance of the Wassermann Reaction *for Treatment of Syphilis, Especially the Later Manifestations.* A. Plehn.
41 Differential Importance of Wassermann Reaction in Rhinology. O. Strandberg.
42 Experiences with Salvarsan in 1,000 Cases of Syphilis. F. Zimmern.
43 *Neurotropic Action and Elimination of Salvarsan. (Weitere Beiträge zur Neurotropie und Depotwirkung des Salvarsans.) W. Fischer and F. Zernick.
44 Quinin Derivatives in Experimental Trypanosome Infection. J. Morgenroth and L. Halberstaedter.

45 Experimental Research on Chemotherapy of Pneumococcus Infection. J. Morgenroth and R. Levy.
46 Artificial Immunization Against Trypanosomes. E. Teichmann and H. Braun.
47 *Proctoclysis with Sugar Solution in Treatment of Diabetic Acidosis. (Behandlung der Diabetesacidose mit Zuckerinfusionen.) R. Balint.
48 *Chondrotomy for Funnel Breast. (Zur chirurgischen Behandlung der angeborenen Trichterbrust.) L. Meyer.

40. **Wassermann Reaction Not a Guide for Treatment of Syphilis.**—In order to ascertain the diagnostic reliability of the Wassermann reaction, Plehn has had the serum of 200 patients at the Urban general hospital repeatedly examined with the five various technics for the complement-deviation test. The vials with the serum were only numbered and the serologist knew nothing of the patients yielding the serum, not even whether they had a history of syphilis or not or had taken treatment. The results confirm the possibility that syphilis may become permanently cured with no or very slight treatment. Among the forty-two giving a positive Wassermann reaction repeatedly, nine had reached an advanced age without ever having had any manifestations of their syphilis after the very first, which was also the case in fourteen others who had received what would be regarded as very inadequate treatment; some in this group gave a positive, others a negative reaction. Neisser has stated this year that the spontaneous recovery of syphilis is an extremely rare occurrence, but Naunyn has asserted that it generally dies out of itself in most cases, even without treatment—although he is the last one to rely on this—and the experiences related here by Plehn demonstrate that a clinical cure with little if any treatment occurs oftener than is generally recognized. This fact explains the positive reactions obtained in so many persons who are supposed to be entirely free from a history of syphilis. On the other hand, the Wassermann reaction may become negative while florid manifestations of syphilis persist or develop afterward. The fact that the reaction has become negative does not therefore signify that the patient is actually cured; neither is it always possible, even with the most energetic treatment, to transform a positive into a negative reaction or prevent tardy syphilis of the nervous system, especially the parasyphilitic affections with and without a positive reaction. Plehn adds that the Wassermann reaction gives no information as to the infectiousness of the case. The reaction may persist positive for decades while the patient is free from the slightest clinical symptom; thus a positive reaction is no proof of the syphilitic nature of clinical manifestations developing during this period, which may or may not be of a syphilitic nature. On the other hand, a negative reaction is no proof that they are not syphilitic. Plehn reiterates that the Wassermann reaction is only one symptom of syphilis, and, like other symptoms, it may be present or not, and it may be encountered in conditions other than syphilis, as with neoplasms and lead colic. Plehn also has had occasion to deplore the depression produced by knowledge of a positive reaction in persons clinically normal. One young man recently committed suicide on this account and necropsy failed to disclose the slightest trace of syphilis. A syphilitic with a negative reaction may yet speedily die of brain syphilis, while others with positive reactions may live to be 77 and over without symptoms. He does not dispute the value of the test in certain dubious conditions, but regards the interpretation of the test as a matter involving great responsibility.

43. **Neurotropic Action of Salvarsan and Its Elimination.**—Fischer and Zernick report a case of polyneuritis and one of neuroretinitis developing in syphilitic women after injection of salvarsan. They also tabulate the findings in regard to the elimination of arsenic after intramuscular, subcutaneous or intravenous injection of salvarsan, showing that the elimination may continue for seven to twelve months and also that even after intravenous injection there may be storage of the arsenic in internal organs. The arsenic may be circulating in the blood, even when no traces of it can be detected in the urine.

47. **Sugar Solution in Diabetic Acidosis.**—Balint gives the sugar solution by proctoclysis so that absorption may be promoted and long continued. As a still further aid in this line he restricted the amount of calories in the diet during the two days of the proctoclysis, not over 700 or 800 calories being allowed, which included the 100 or 150 gm. of sugar in the rectal infusion. In some cases the acidosis ceased entirely or became strikingly reduced, the more so the longer the proctoclysis was kept up. The tolerance of the patients was much increased in every case and the acetonuria materially diminished for some time. He theorizes to explain this, ascribing the better utilization of sugar from the rectum to its passage at once into the general circulation instead of its being obliged to go around by way of the portal vein.

48. **Chondrotomy for Congenital Funnel Breast.**—Meyer reports the application of Freund's operation to relieve the depression of the lower sternal region which was so pronounced that as the boy grew he had not room to breathe and operative measures became imperative at the age of 16. About 2.5 cm. was resected from the second and third costal cartilages on the right side and the chest at once expanded and the lad has had no further trouble since. Meyer thinks that this chondrotomy should be applied to all abnormal conditions in the chest wall or spine causing interference with normal breathing.

Deutsche medizinische Wochenschrift, Berlin

August 17, XXXVII, No. 33, pp. 1505-1544

49 Criticism of Prevailing Theories in Regard to Anaphylaxis, Allergy and [illegible] General. (Ueberempfindlichkeit in [illegible]nschen.) A. Menzer.
50 Case of Fatal [illegible] F. Speyer.
51 *Dangers of Gas Distention of Stomach with an Effervescing Mixture for [illegible]ure-Aufblähung des Magens [illegible] F. Nieden.
52 *Subcutaneous [illegible] (Darm- und Blasenruptu[illegible]
53 *Appearance of Salvarsan in Milk. A. and A. Bornstein.
54 Internal Hemorrhagic Pachymeningitis in 11 Months' Infant. H. Hahn.
55 Question of Complete Cure of Syphilis by Salvarsan. (Zur Therapia sterilisans magna durch Salvarsan.) L. Geyer.
56 Technic for Salvarsan Infusion. (Zur Frage der Konzentration der NaCl-Lösung bei Salvarsaninfusionen.) Wehner.
57 Simplified Brandberger Apparatus for Determination of Albumin. (Neuer Apparat zur Brandbergschen Eiweissbestimmung nach Ameseder.) A. Dlabac.

51. **Dangers of Inflating the Stomach with Effervescing Mixture.**—Nieden protests against the recent statements of Stiller and Hoffmann in regard to the harmlessness of this measure as an aid in Roentgen examination. He reports a case of severe gastric hemorrhage induced by the procedure and cites two reported by Bardachzi and three with fatal outcome by Behrend and another by Leo. For Roentgen work he commends barium sulphate as effectual for shadow photography; it has been used at the Bonn medical clinic in thousands of cases without ever causing appreciable by-effects. It is important, however, to write out the name in full, adding "for internal administration," as the substitution of barium sulphite, for the sulphate, ordered as "barium sulph," proved fatal in a recent case in Freiburg.

52. **Rupture of Intestines and Bladder from Contusions.**—Gottschalk remarks that the outcome is growing better in these accidents as the first aid is becoming more intelligent. The duodenum was the viscus ruptured in all but one of his last series of fifteen cases (since 1901). Only one patient succumbed of the three with subcutaneous intraperitoneal rupture of the bladder and one of the five with extraperitoneal rupture. One of these patients was a healthy woman of 41 and the rupture occurred in a fall while dancing, her partner falling on her abdomen and rupturing the full bladder. At the operation a pedunculated fibrosarcoma, the shape and size of a kidney, was found in the omentum. It was readily removed, the findings indicating that the neoplasm had been attached to the bladder and had been torn away by the accident, the weakened wall of the bladder rupturing at this point.

53. **Appearance of Salvarsan in Milk.**—Bornstein found arsenic in the milk of women who had been treated with salvarsan and the arsenic was in a form identical with or closely allied to the composition of salvarsan. Experiments with a syphilitic infant fed with the milk of a goat which had received an intravenous injection of salvarsan proved disappointing. The goat milk contained much smaller proportions of arsenic than the specimens of human milk that had been examined.

Medizinische Klinik, Berlin

July 23, VII, No. 30, pp. 1147-1186

58 Present Status of Cancer Research and Treatment. (Chemo- [illegible] Geschwülste mit aromatischen [illegible] Blumenthal.
59 *[illegible] the Stomach. (Schichtung der Speisen im Magen.) R. Kaufmann and R. Kienböck.
60 *Operative Treatment of Hemorrhoids. H. H. Dreesmann.
61 Epinephrin Enhances Action of Certain Local Anesthetics. (Das wirksame Prinzip der Nebennierenpräparate in Verbindung mit den Lokalanästheticis.) P. Esch.
62 *Ocular Tuberculosis. (Zur Kenntnis neuer Erscheinungsformen der Augentuberkulose.) E. Lubowski.
63 *Varicose Veins. (Ueber Krampfadern.) L. Stephan.
64 *The Hematocrite in Estimation of Effect of Iron in Anemia. [illegible] entrifugierter Blutmessröhrchen [illegible] den Wert des Eisens bei der [illegible] R. Schmincke.
65 Ty[illegible] omplikationen im Verlauf von Typhus abdominalis.) F. Klewitz. Commenced in No. 29.
66 Bacterial Contamination of Meat. (Praktisches und Theoretisches zur Frage der bakteriellen Fleischvergiftung.) Aumann.

July 30, No. 31, pp. 1187-1222 and Supplement

67 *Specific Diagnosis of Tuberculosis. G. Jochmann.
68 *Operative Treatment of Nephritis. R. Lichtenstern.
69 *Treatment of Pneumococcus Meningitis. Kleinschmidt.
70 *Retention of Hydatidiform Mole. (Retention von Blasenmolen.) K. Mayer.
71 Therapeutic Importance of Alkaline Mineral Waters. (Therapeutische Bedeutung der erdigen Quellen.) E. H. Kisch.
72 *Autotreatment of Sciatica. (Selbstbehandlung der Ischias.) C. P. Dannehl.
73 Indian Arrow Poison Derived from Frogs' Skin Secretion. (Ueber ein indianisches Pfeilgift nebst Versuchen mit einem aus der Haut von *Rana esculenta* gewonnenen Gift.) W Caspari and A. Loewy.
74 Importance and Technic of the Wassermann Reaction in Syphilis. E. Sonntag.

59. **Stratification of Food in the Stomach.**—Kaufmann and Kienböck report study of this subject with the Roentgen rays on five healthy persons. The food spread out to form a sort of stratified shell, the food last eaten forming the kernel.

60. **Operative Treatment of Hemorrhoids.**—Dreesmann extols the advantages of two parallel incisions above and below the anus, leaving the latter intact. With a blunt instrument the skin is separated from the rectum and the hemorrhoids can thus be excised from without, leaving the mucosa intact. The incisions afford ample opportunity for inspection of the rectum and arresting hemorrhage. The details of the technic are shown in two illustrations as he has performed this operation on sixteen patients. The special advantages are that the wound being in a comparatively aseptic region rapidly heals by primary intention while there is no danger of stenosis later as the mucosa near the anus is not injured. For the same reason defecation is not painful.

62. **Tuberculosis of the Eyes.**—Lubowski expatiates on the necessity for a diagnostic injection of tuberculin for differentiation of dubious affections of the eyes, and describes several instances in which this alone cleared up the case. He deplores the dread among both patients and physicians of the tuberculin test; without it the patient is liable to drift from one physician to another, each diagnosing differently the eye trouble. It is important, he adds, to learn the numerous forms under which a tuberculous process may develop in the eye, and new cases should be described at length, so physicians may become familiar with them. Uveitis and scleritis are of tuberculous origin in the overwhelming majority of cases, and the tuberculous process may also manifest itself as an obstruction in the central artery of the retina with plastic iritis or neuroretinitis with central scotoma. He relates a case of the kind with complete recovery under tuberculin treatment. Probably the process developed behind the eyeball in the central canal of the optic nerve, and as it subsided under the tuberculin treatment functioning was restored without even any atrophic blanching of the optic nerve. In another case with hemorrhages in the vitreous body and obstruction of the central artery of the retina, the disturbances likewise all retrogressed completely under tuberculin treatment. The remarkably favorable outcome of the tuberculous thrombophlebitis is in striking contrast to the tendency to atrophy of the optic nerve left after traumatic lesions of the kind.

63. **Varicose Veins.**—Stephan has devised an elastic stocking which seems, he states, to control the circulation in the veins like the natural valves. The stocking is of linen with lengthwise strips of round wicking; it is laced only tight enough to compress the enlarged, not the normal veins. The intermittent compression thus exerted by the strips of soft wicking simulates the natural action of the valves.

64. **The Hematocrite in Estimation of Effect of Iron in Anemia.**—Schmincke measures the height of the mass of blood corpuscles in the graduated tube after centrifuging as a means of controlling the effect of treatment in anemic conditions.

67. **Specific Diagnosis of Tuberculosis.**—Jochmann urges that general practitioners should familiarize themselves with the tuberculin tests as their diagnostic importance cannot be overestimated, especially for early detection of tuberculosis. The special technic to be used depends on the circumstances of the case.

68. **Operative Treatment of Nephritis.**—Lichtenstern reports his experiences in this line, all justifying the conclusion that true Bright's disease is not amenable to surgical treatment but that operative measures are indicated for recurring rebellious unilateral renal hematuria, colics and anuria when they are the result of inflammatory processes. Recurring hemorrhage may be arrested by mere decapsulation and anuria by unilateral nephrotomy.

69. **Pneumococcus Meningitis.**—Kleinschmidt has encountered a number of cases of meningitis complicating pneumonia in the last six years, all fatal. Matthes reported four similar cases in 1908 except that there had been no pneumonia in three of them. Kleinschmidt here reports a case of pneumococcus meningitis following an infectious sore throat, the patient, a young merchant, recovering. Hexamethylenamin and pneumococcus serum had been administered, supplemented by lumbar puncture. Kleinschmidt thinks that this case suggests the advantage of giving hexamethylenamin in prophylaxis in epidemic meningitis, and also in croupous pneumonia, otitis media and injuries of the skull. Liebermeister has recently called attention to the frequent suppurative inflammation of the meninges found at necropsy after pneumonia, even when there had been no meningitic symptoms during life.

70. **Retention of Hydatidiform Mole.**—Mayer reports ten cases of this kind. In only one was the uterus very much enlarged; in the others the size corresponded to the period of the assumed pregnancy. In five cases there were atypical hemorrhages and blood-stained discharges; in two, small, tumor-like indurations in the uterus wall were palpable until after evacuation of the mole. The pathologic product had evidently been arrested in its growth but was not expelled and, although not causing special pathognomonic symptoms, it was seriously impairing the general health until it was mechanically removed the fourth or fifth month.

72. **Self-Treatment of Sciatica.**—Dannehl has the patient sit in a hot bath with the foot braced against the end wall of the tub, which he grasps above with both hands and pulls his trunk forward and over, thus stretching the nerve in the hip as he repeats the procedure. It is supplemented by light massage of the nerve trunk. The relaxation in the hot water facilitates both the stretching and the massage, and the patient's sensations are the best guide as to the intensity and duration of the procedures. They take thirty or forty minutes in all, and the water should be kept at about the same temperature, 38 C. (100.4 F.). At the close, cooler water may be poured over the body, avoiding the affected limb. The sound leg should not be braced. These baths should be taken every day or second day for months if necessary, supplemented by general hygienic measures. Dannehl has thus cured himself, by this means, of sciatica which had proved refractory for three years to all other measures, and the cure has been complete during the two years since.

Münchener medizinische Wochenschrift

August 8, LVIII, No. 32, pp. 1705-1752

75 *Research on Beginning of Labor. (Experimentell-biologische Untersuchungen über den Geburtseintritt.) A. von der Heide.
76 *Diagnosis of Spasmophilia in Children: The Peroneal Phenomenon. F. Lust.
77 Phlorin Glycosuria, a New Form of Artificial Diabetes. M. Cremer.
78 [illegible] na in the Cornea. (Ueber anaphylak- [illegible] an der Hornhaut.) K. Wessely.
79 [illegible] Uvea Albumin. (Uveaeiweiss.) W. Weichardt and R. Kümmell.

80 *Experimental Production of Congenital Deformities of the Eyes. H. E. Pagenstecher.
81 Colorimetric Determination of Milk-Sugar in Urine and Milk. W. Autenrieth and A. Funk.
82 *Fate of Tuberculous Individuals Treated in Sanatoria. (Das spätere Schicksal der in Heilstätten behandelten Lungenschwindsüchtigen.) F. Reiche.
83 *Anilin Poisoning. R. Trespe.
84 Acid or Alkaline Intravenous Salvarsan Injection. B. Spiethoff.
85 Late Syphilitic Symptoms Appearing in Early Stages of Syphilis After Salvarsan Injection. Wehner.
86 Technic of Codivilla's Nail Extension. A. Weber.
87 Langemak's Bandage and Temperature Regulation of the Body. P. Schuster.
88 *Peptic Ulcer in Stomach, Esophagus and Duodenum. G. B. Gruber. Commenced in No. 31.

75. **Labor an Anaphylactic Process.**—Sauerbruch and Heyde recently reported experiments with a gravid and non-gravid rat sutured together in parabiosis. The gravidity did not seem to be affected and both animals apparently throve until, a few hours before the gravid animal cast its young, the other suddenly developed serious symptoms, apathy or tetanic cramps or spasms resembling those of uremia. These experiments suggested that the fetal serum had acquired toxic properties which induced the disturbance resulting in expulsion of the contents of the uterus, and recent experiences here reported by von der Heide apparently confirm this assumption. Immediately after birth of a child and severing the cord the reserve placental blood from it was set aside to clot. He then injected 17.5 c.c. of this fetal serum in a young woman supposed to be at term and labor commenced in three hours. A similar result followed in three other women at or approaching term, and then in six cases in which labor had commenced but the labor pains had stopped, he injected 5 or 10 c.c. and labor started up again in a few minutes to one or two hours. One of these patients was a primipara of 30 and the period of dilatation had extended over days without labor pains, but they commenced two and a half hours after injection of 4 c.c. of the fetal serum and kept up for four hours, then ceased until the next day when they recommenced, with speedy delivery. He reports in all twenty-six pregnant women thus treated with fetal serum, the results demonstrating, he states, that not only is labor to be regarded as an anaphylactic phenomenon, due to the action of the alien albumin in the fetal serum, but that fetal serum is an effectual means to promote the contractions of the uterus in case of inefficient labor pains, either primary or secondary. He adds that injection of gradually increasing amounts of the fetal serum—on the principle of tuberculin treatment—might habituate the woman to the alien albumin so that anaphylaxis would not develop and she might carry the child over term. Injection of the fetal serum into non-pregnant women was not followed by any appreciable phenomena, seeming entirely inert.

76. **The Peroneal Nerve Phenomenon.**—Hyperexcitability of the peroneal (external popliteal) nerve was found constantly by Lust in the seventy-six children with spasmophilia examined, while the facialis phenomenon occurred only in 43.4 per cent. of the children although they all presented unmistakable signs of tetany. Holding the child's leg in his left hand he taps with a percussion hammer the external popliteal nerve near or just below the head of the fibula; if the nerve is unduly excitable, this induces transient abduction with dorsal flexion of the foot.

80. **Experimental Production of Malformations of the Eyes and Cataract.**—Pagenstecher fed gravid rabbits and guinea-pigs with naphthalin and there were malformations in the eyes in 50 per cent. of the rabbits in the following litters and in 33 per cent. of the guinea-pigs. The malformations included numbers of congenital cataracts. This experimental research proves the possibility of a toxic origin for cataract and that malformations are not necessarily due to an anomaly in the germ.

82. **After-History of Tuberculous Patients Treated in Sanatoriums.**—The statistics given in this article were cited recently in the Berlin Letter in The Journal, September 9, page 911. It rarely occurs that nearly three thousand patients can thus be kept under observation for so many years, while the conclusions are valuable as the material is so uniform, the patients all belonging to the wage-earning classes. It is certainly encouraging, Reiche remarks, to find that over 54 per cent. of the men and over 64 per cent. of the women given sanatorium treatment from seventeen to five years ago have regained full earning capacity, even although one-fifth required for this a second course and one-thirteenth a third. The data confirm the tendency of pulmonary tuberculosis to a long protracted course, long periods of latency and retrogressions.

83. **Anilin Poisoning.**—The patients were two boys one of whom had applied commercial anilin copiously to his hands in treatment of ulcerated chilblains; the other boy felt its toxic action only by inhalation as the two slept together in a defectively ventilated room. The anilin did not seem to have an inflammatory action on the tissues and the chilblains healed under it, but the general symptoms were severe and there was a bluish gray discoloration of the nails, gums, etc. Both boys were found unconscious but the one who had only inhaled the anilin had recovered the next morning, while the other was still too weak to stand by the ninth day, but then gradually recuperated.

88. **Peptic Ulceration in Esophagus, Stomach and Duodenum.**—Gruber tabulates the details of 170 cases of peptic ulceration or erosions found at 4,208 necropsies; 4 per cent. of the cadavers that reach the dissecting room at Munich thus have signs of peptic ulceration. In only eighteen of the 115 cases of actual ulcers had the affection been diagnosed during life. In fully 61 per cent. of the total 170 cases of peptic lesions morbid changes were found in the heart or vessels. The number of cases in all the various age decades ranged from sixteen to thirty-three except the small number of four between the ages of 10 and 20 and of seven between 80 and 90. Seventeen were in children under 10. In 14 per cent. of the cases the death was due to perforation and in 6 per cent. to hemorrhage from the lesion. Cancer was evident in 139 of the cases, but a connection with a preceding peptic erosion or ulcer was traceable in only 5.2 per cent. Gruber further tabulates all similar statistics that he has found on record in various countries; according to them peptic lesions were found in from 0.1 to 8.32 per cent. of the total necropsies. The higher figures are all from before 1880. No difference between the sexes is apparent from the tables, while the causal influence of cardiovascular disease seems evident. He urges all pathologic anatomists to seek for peptic ulcerations, erosions or scars at all necropsies as important general laws may possibly be learned from comparison of such data.

Therapeutische Monatshefte, Berlin

August, XXV, No. 8, pp. 465-524

89 *Tuberculin Treatment in General Practice. F. Meyer.
90 *Reply to Professor Heubner's "Warning Against Maretin." H. Dreser.
91 *Reply to Above. W. Heubner.
92 Diuretic Action of Amino-Acids. K. Glaessner.
93 *Treatment of Fracture of Upper Arm in Infants. (Zur Therapie des Oberarmbruchs im Säuglingsalter.) F. Göppert.
94 Vaccine Therapy in North America. C. T. Noeggerath.
95 *Fatal Naphthalin Poisoning. S. Prochownik.

89. **Tuberculin Treatment in General Practice.**—Meyer warns that tuberculin treatment may do harm if the dosage is too small as well as when the dosage is too large. It should be regarded as only one factor in treatment of tuberculosis, but is especially indicated for pronounced toxic symptoms such as palpitation of the heart, sweats, gastric disturbances, swelling of the thyroid and slight subfebrile temperature, also in extensive glandular and in open bone affections, combined with surgical measures. Hysteric patients do not take tuberculin treatment at all well. and it is contra-indicated when there is much fever, or pulmonary tuberculosis is rapidly progressive and complicated by mixed infection, epilepsy, severe neurasthenia or heart disease.

90 and 91. **Heubner's Warning Against Maretin.**—As Dreser's pharmacologic research was the basis for the production of maretin, he takes exception to Heubner's warning in regard to its toxic effect on the blood (given in full in The Journal, July 15, 1911: page 256). Dreser rejoins that phenacetin from this hypercritical point of view is also a poison for the blood, Krönig having reported in 1895 a case of fatal changes in the blood after a dose of 1 gm. (15 grains) of phenacetin, and yet no one hesitates to use phenacetin on this account.

Heubner replies to his statements in detail, saying in regard to phenacetin that the number of known cases of injury of the blood from it is negligibly small during the twenty-five years it has been in use in comparison with the number of cases of injury from maretin soon after its introduction. He reiterates that the continued use of maretin is liable to induce anemia even in the ordinary doses, and as an antipyretic action can be obtained with more harmless drugs, there is no reason for its use, certainly not over long periods.

93. **Treatment of Fracture of the Upper Arm in Infants.**—The usual splints used for this purpose hamper the movements of the thorax walls, and Göppert recommends a wire frame of triangular shape, padded at the angles, which fit into the axilla and elbow of the child and hold the arm away from the chest.

95. **Fatal Naphthalin Poisoning.**—The naphthalin had been ordered to expel thread-worms, and was given in ten powders of 0.25 gm. (about 4 grains) each, four a day for two days and then followed with castor oil. The child, a boy of 6, died with symptoms of naphthalin poisoning the third day, after having taken 1.75 gm. in all in two days. Lewin has also reported a fatality from this cause. It is possible that the castor oil dissolved the drug and thus an unusually large amount was absorbed.

Therapie der Gegenwart, Berlin

August, LII, No. 8, pp. 337-384

96 *Rhizotomy for Tabetic Gastric Crises. (Operative Behand- [illegible] n durch Resektion hinterer Dorsal- [illegible]
97 *Ve[illegible] in Diet for Diabetics. H. Strauss.
98 *Kuhn's Suction Mask in General Practice. (Ueber die Lungensaugmaske aus der Praxis.) P. Seebens.
99 *Diatheses in Children. (Ueber kombinierte Krankheitsbereitschaften oder Diathesen im Kindesalter.) M. Pfaundler. Commenced in No. 7.

96. **Rhizotomy for Tabetic Gastric Crises.**—Foerster reviews his experience with resection of the posterior spinal nerve roots in cases of tabes with gastric crises of such extreme intensity that the inanition and morphin poisoning were driving the patient into the grave and all other measures had failed to relieve. Only under these conditions does he consider operative treatment. The aim is to resect the sensory gastro-intestinal fibers of the sympathetic nerve, and this may require resection of the roots from the twelfth to the fifth dorsal or even higher; the few failures in the twenty-eight cases on record to date were undoubtedly due to the fact that too few roots were resected. It may be possible to determine beforehand, he says, exactly the roots requiring resection by careful study of the location of the pains and localization of the superficial hyperesthetic zones. Guleke found in one case that the crises recurred after resection of the seventh to the ninth roots but then vanished permanently when the tenth and eleventh roots were further resected. There is always a possibility that the crises may be due to the vagus or to direct irritation of the vomiting center in the medulla oblongata, in which case rhizotomy of course would not relieve. There have been only three deaths from the intervention although the patients were all extremely debilitated and their resisting powers at a low ebb from morphin addiction. Paraplegia of the legs, paralysis of the bladder with cystitis, and pains in the legs have followed the operation in a few instances, but proved transient except in Nonne's case in which the paraplegia of the legs seems to be permanent. These troubles are probably the result of operative injury of the spinal cord or of leakage of blood into the dural sac below or possibly of the draining away of the spinal fluid from the dural sac during the operation and afterward if the pelvis is raised. If the blood-supply of the spinal cord is interfered with, paralysis may likewise result. Another transient symptom is a certain atony of the abdominal walls with more or less meteorism. Many of the patients have been restored to comparative health and enabled to return to business.

97. **Advantages of Vegetables Rich in Inulin in Diabetes.**—Strauss has given with much benefit pure inulin in two cases of diabetes, and urges the addition of vegetables rich in inulin to the diet of diabetics, especially artichokes, dandelion, the black roots of viper's grass, an edible species of *Scorzonera*, and *Helianthus macrophyllus*, of the sunflower family, all of which will repay cultivation and, as a source of inulin, prove useful in antidiabetes diets. The absorption of the inulin proceeds naturally more slowly from the ingested vegetables than when it is given isolated, which is a distinct advantage.

98. **The Suction Mask in General Practice.**—Seebens states that Kuhn calls the mask by this name as it sucks up the diaphragm by restricting the intake of air while it allows expiration to proceed unhindered. During inspiration the diaphragm, the blood and the lymph are all sucked up into the thorax, the main effect of the mask being to induce hyperemia in the organs in the chest. By sucking the blood into the chest it reduces the blood-pressure in the brain and is thus useful in insomnia while the hyperemia in the lungs has a curative influence on lung and heart disease and in all forms of anemia, as also in bronchial asthma, emphysema and bronchitis, and, by its influence on sleeplessness, in neurasthenia. Seebens has applied the mask in thirty cases of various affections and with benefit in all, no by-effects being observed in any instance. He urges general practitioners to familiarize themselves with the advantages of this inexpensive and harmless method, warning that charlatans will soon be taking it up if the profession neglects it. (The principles involved were described in The Journal, Oct. 15, 1910, page 1421). Some fear that the mask may induce hemoptysis but Senator commends it directly for hemoptysis and Kuhn has never had hemorrhage from the lungs in all his experience with the mask.

99. **Diatheses in Children.**—Pfaundler regards the neurolymphatic tendency, the exudative diathesis, as the soil on which "scrofula" develops, and lays great stress on preventive hygiene, a climate which permits constant out-of-door life, companionship with children of the same age, and a diet which excludes more or less completely all animal food, especially milk, cream, butter and eggs, and also sugar. He has often found it possible to cure anorexia by forcing food on the child, giving it by spoonfuls, coaxing, threatening and rewarding the child for eating for a time and then suddenly ceasing this and leaving the child alone. He will not care for food at first but finally clamors for it. Or a meal may be skipped entirely, or the child kept waiting long at table before it is served, on one pretext or another, until it becomes extremely impatient for its food which it then eats with appetite. Children often refuse to eat vegetables, as they prefer other foods, but when milk and other animal food is denied them, they are forced to fall back on the vegetables which they soon take with relish if palatably prepared. The practitioner who instils these hygienic principles may be called a "turnip doctor," and parents may be dissatisfied with his directions, the public still having the medieval conception that drugging is all there is to therapeutics, but the physician must not swerve from his convictions, and the final outcome of the case will be his reward.

Wiener klinische Wochenschrift

August 10, XXIV, No. 32, pp. 1147-1178

100 *Auto-Intoxication with Acids in Human Pathology. O. Porges.
101 *Rhizotomy. (Foerster's Operation.) G. Stiefler.
102 Sterilization with Ultraviolet Light. E. Glaser.
103 Research on Immunity. J. Cecikas.

August 17, No. 33, pp. 1179-1206

104 *Physical Symptoms of Mitral Insufficiency. L. Kürt.
105 Technic for Bacteriologic Diagnosis of Cholera. A. Weisskopf.
106 *Optic Neuritis with Exanthematous Typhus. V. Arnold.

100. **Auto-Intoxication with Acids.**—Porges is assistant at von Noorden's clinic at Vienna, where the subject of acid auto-intoxication has been especially studied. He reviews the various forms of intoxication and the various acids involved, as well as the various factors responsible for the accumulation of acid. The latter may include a deficiency of alkalies or insufficiency of the organs whose task is to eliminate the acid, as well as over-accumulation of the acid. Acidosis is a more common occurrence than has been hitherto recognized, he declares, and it has one pathognomonic sign, namely, increased functioning of the lungs, hyperpnea, the lungs drawing in more breath at each inhalation or the respiration becoming more frequent. Recent research has shown

that the respiration is controlled by the acidity of the blood, the respiration center being peculiarly sensitive to acids. It is probable, he declares further, that the respiration is a means of regulating the acidity of the blood; the lungs by eliminating carbonic acid thus strive to maintain the balance of acidity by throwing off the excess of acid in this way. The increased respiration is thus a sign that the organism is striving to compensate commencing acid intoxication by throwing off increased amounts of carbonic acid. The hyperpnea has the further consequence that the tension of carbonic acid in the blood declines, and this, too, may prove useful in early detection of acidosis. The abstract research recorded thus permits greater certainty in our therapeutic measures. When the physician is confronted with a patient in coma and there are no anamnesic data, and nothing to explain the coma can be discovered on examination of the patient, the presence of hyperpnea discloses that the coma is due to acid intoxication, and hence that alkalies are indicated. On the other hand, the lack of excessive functioning on the part of the lungs may serve to exclude diabetic coma and coma from any acidosis. Meat and other protein foods do not induce acid intoxication but they contribute to acidosis and hence should be restricted when there are other causes suggesting the possibility of impending acidosis, as in certain forms of nephritis and in diabetes. The favorable action of this has long been confirmed by experience and the research reported explains its mechanism from another standpoint. The findings from the research enable us also to refrain from inflicting unnecessary dietetic restrictions on our patients, as the organism has means at its disposal under ordinary conditions to render harmless the acid elements of meat.

101. **Rhizotomy.**—Stiefler reports a case of severe spastic paralysis in a boy of 12 in which he resected the posterior spinal roots according to Foerster's technic with excellent results. It is the forty-first case on record, he says, in which this technic has been applied in Little's disease and successfully in thirty-one; no benefit was apparent in five cases and four of the patients succumbed, one in an epileptic seizure, another from postoperative pneumonia and another from an iodin dermatitis. In the present case the patient is now able to sit erect and walk with the aid of a walking stool. He reports further a case of intolerable gastric crises in a tabetic man of 49 on whom the same operation was performed, adding that in the twenty-six similar cases on record a cure was realized in twelve cases. Great benefit was also apparent in this case, the gastric crises not recurring and the general health showing marked progressive improvement, but the patient died suddenly the seventh day. Necropsy indicated that the fatality was the result of bulbar paralysis and that the operation need not be incriminated, the tabetic lesions in the medulla oblongata amply sufficing to explain the sudden death.

104. **The Symptomatology of Mitral Insufficiency.**—Kürt writes from von Neusser's clinic at Vienna to discuss the physical signs and symptoms of mitral insufficiency at different ages and different stages of the disease and the explanation of their mechanism. He warns that accidental murmurs may be observed in early childhood and lead to much diagnostic confusion. Organic systolic murmurs in children are liable to be more pronounced in the dorsal decubitus. In adults he has found the systolic murmur over the apex more pronounced with the patient lying on the left side. To date he knows of no decisive means of differentiating organic from accidental murmurs. Some instances are cited to show the advantages of indirect palpation in certain dubious cases, and the diagnostic importance of an unusually pronounced pulsation in the chest wall outside of the apex, indicating that the left ventricle is lying closer to the wall than normal and over a larger area, although there may be nothing else to indicate that it is enlarged.

106. **Optic Neuritis with Exanthematous Typhus.**—Arnold states that since he has made a practice of examining the eyes of patients with spotted fever he has found traces of optic neuritis quite common. It was pronounced in eight and mild in two among his fourteen patients with this disease, but none complained of visual disturbances. The neuritis persisted longer than any other symptom but finally retrogressed completely in nearly all, but in a few there are signs of incipient atrophy of the nerve. He adds that he has encountered optic neuritis in no other infectious disease except meningitis, in which he has invariably found it or witnessed its development. He has never found it in typhoid fever and Groenouw was able to find only twenty cases in the literature of optic neuritis in typhoid fever. The discovery of an optic neuritis may therefore turn the scale in favor of exanthematous typhus in dubious cases.

Zentralblatt für Chirurgie, Leipsic

July 22, XXXVIII, No. 29, pp. 985-1016

107 *The "Two-Route Method" of Treating Local Lesions. (Die Pfannenstill'sche Methode in der Chirurgie.) A. v. Reuterskiöld.
108 *Surgical Treatment of Tabes Dorsalis. H. Schüssler
109 Resection of Ulna and Radius in Treatment of Contracture After Inflammation of Tendon Sheaths in the Hand. (Zur Behandlung schwerer Hand- und Fingerkontrakturen nach Sehnenscheidenentzündung.) R. Mühsam.

July 29, No. 30, pp. 1017-1048

110 Differential Atmospheric Pressure in Prevention of Aspiration of Air After Injury of Veins. (Zur Verhütung der Luftaspiration bei Venenverletzungen.) M. Tiegel.
111 Camphorated Oil in Prophylaxis of Peritonitis and Adhesions. (Anwendung des einprozentigen Kampferöls bei Peritonitis und die adhäsionshemmende Wirkung desselben.) G. Hirschel.
112 Technic for Correction of Cleft Palate. (Ueber die Operation der Hasenscharte und des prominenten Zwischenkiefers.) L. Kredel.

August 5, No. 31, pp. 1049-1080

113 Indirect Production of Pain at McBurney's Point. (Zu der Frage der Bedeutung des Rovsing'schen Symptoms.) C. Lauenstein.
114 Leverage Extension in Treatment of Fractures. (Hebelextension.) C. Deutschländer.

107. **The Two-Route Method of Treating Local Lesions.**—Reuterskiöld reports favorable experiences with Pfannenstill's method of acting on lesions by two routes: potassium iodid taken internally and ozone or hydrogen dioxid applied externally. (It was described in THE JOURNAL, July 16, 1910, p. 264.) About 3 gm. of potassium iodid are taken during the day and the lesion is kept moistened with hydrogen dioxid. Reuterskiöld has found it convenient to use two vials connected with a wick, the upper vial containing the hydrogen dioxid which drains away into the lower vial through the wick, the wick being bent in the middle and this fold being introduced into the depths of the lesion. The solution should give an acid reaction and for this he adds 0.25 to 1 per cent. acetic acid, using a 3 to 1 per cent. concentration of hydrogen dioxid.

108. **Operative Treatment of Tabes.**—Schüssler states that in sixty cases of lumbar tabes he has exposed the sciatic nerve and found it invariably in a focus of perineuritis. This alone is sufficient to explain the pains in lumbar tabes; both the gastric crises and visceral symptoms may be regarded as reflex neuroses, originating in the nervi nervorum of the inflamed neurilemma. The disturbances are generally the result of adhesions, and by slitting the neurilemma and releasing the nerve from the adhesions, the pains are arrested. When the left forefinger is worked under the nerve and lifts it, the adhesions can be heard tearing. Six weeks of after-treatment should follow this neurolysis procedure. One man of 40 with severe tabetic crises and symptoms has been free from pain since it was applied in 1910.

Zentralblatt für Gynäkologie, Leipsic

July 22, XXXV, No. 29, pp. 1041-1080

115 Prophylaxis of Puerperal Fever and Self-Infection. (Semmelweis und die Selbstinfektion.) F. Ahlfeld. (Spontaninfektion.) L. Aschoff.
116 Ossification in Laparotomy Scar. (Knochenbildung in der Laparotomienarbe.) W. Hannes.
117 Cleft in Trunk from Shoulder to Umbilicus. (Seltene Form von Rumpfspalte.) A. Gutmann.

July 29, No. 30, pp. 1081-1112

118 No Premonitory Symptoms of Thrombosis or Embolism (Kennen wir prämonitorische Symptome bei Thrombose oder Embolie?) H. Küster.
119 *Syphilitic Meningitis Following Spinal Anesthesia. (Meningitis luetica, ausgelöst durch Lumbalanästhesie.) G. Linzenmeier.
120 *Technic for Excision of Corpus Uteri in Tuberculous Pregnant Women. (Indikation und Technik der Korpusexzision bei tuberkulösen Schwangeren.) H. v. Bardeleben.
121 Formation of Corpus Luteum. J. W. Miller.

August 5, No. 31, pp. 1113-1144

122 Improved Management of Umbilical Cord. (Methode, die Nabelabklemmung mit der Unterbindung zu kombinieren.) B. H. Jägerroos.

119. **Meningitis Following Spinal Anesthesia.**—A supposedly healthy woman developed symptoms of meningitis after spinal anesthesia. The Wassermann reaction proved positive and under salvarsan the symptoms promptly subsided. Linzenmeier remarks that the experience suggests special caution with spinal anesthesia on suspicion of syphilis, and also the necessity for tentative specific treatment if symptoms of meningitis follow the anesthesia and persist.

120. **Resection of Corpus Uteri in Tuberculous Pregnant Women.**—Bardeleben has been shocked at the high mortality in tuberculous women who become pregnant even when abortion is induced, 25 and 58.3 per cent. of his fifty patients in the first and second stages of pulmonary tuberculosis dying in less than sixteen months after the abortion. After trials of various supplementary operations, he reports favorable results after systematic excision of the corpus to supplement the abortion. The mortality has dropped to 5.6 per cent. with this technic, which he describes in detail with illustrations. In forty cases, the women less than four months pregnant, he operated by the vaginal route and in the eight others by the abdominal. The operation required only twenty to thirty-five minutes: hemorrhage was slight. Enough functioning corpus tissue is left to prevent disturbances later, while the site of the placenta is removed and the stumps of the adnexa are ligated outside the peritoneum. None of the patients died within sixteen months of the pregnancy and menstruation is not interfered with except that the menstrual hemorrhages are less copious. The operation aims to free the woman of the last trace of her gestation while preventing further conception.

Zentralblatt für innere Medizin, Leipsic

July 22, XXXII, No. 29, pp. 713-736

123 *Percussion in the Bath. G. Hauffe.

July 29, No. 30, pp. 737-760

124 Certain Features of Congenital Heart Defects: Two Cases. (Einige Beobachtungen bei zwei Fällen von angeborenem Herzfehler.) O. Roth.

123. **Percussion in the Bath.**—In order to facilitate percussion, Hauffe has the tub raised so that its walls are level with a stretcher and the physician does not have to bend over much. Both lungs and heart findings are far more pronounced and instructive, he asserts, with the patient lying relaxed in a full bath.

Gazzetta degli Ospedali e delle Cliniche, Milan

July 18, XXXII, No. 86, pp. 907-914

125 *Treatment of Hemorrhoids. G. Baroni.

July 20, No. 87, pp. 915-922

126 Painful Enlargement of Glands in Vicinity of Herpes Zoster. V. Russo.

July 23, No. 88, pp. 923-938

127 Necessity for Development of Forensic Gynecology. (Il presente e l'avvenire della moderna ginecologia.) L. M. Bossi.

July 27, No. 90, pp. 947-954

128 Two Operative Cases of Wounds of the Diaphragm. G. Negroni.

July 30, No. 91, pp. 955-970

129 *Present Status of Pellagra Question. (Nuove vedute eziologiche e nuove critiche a proposito della pellagra.) E. Bertarelli.

125. **Treatment of Hemorrhoids.**—Baroni has found that mere forcible extensive dilatation of the anus has sometimes been sufficient to break up the vicious circle maintaining the hemorrhoids, and in any event is a powerful factor in the cure. When further measures are required, he seizes the tip of each hemorrhoid with forceps and pulls it out as long as possible, ligating it at the base, passing the needle through the base to prevent its slipping. There is no danger of tardy hemorrhage with this technic nor of stenosis as the mucosa is left intact between each nodule as they are thermocauterized.

129. **Pellagra.**—Bertarelli reviews the various theories in regard to the origin of pellagra to date. While he thinks that there is no positive evidence to explain its origin, yet the probabilities are in favor of its being an infectious disease due to a protozoon or some microorganism of similar biologic characteristics, the corn theory not having stood the test of time. The principal argument against the corn theory is that the rigorous measures in regard to the corn harvest and corn as a foodstuff, introduced in prophylaxis of pellagra by the Italian government, have given such mediocre results. The number of cases of pellagra have diminished but by no means in proportion to the extent of these measures and the strictness of their enforcement.

Riforma Medica, Naples

July 17, XXVII, No. 29, pp. 785-812

130 Congenital Median Fistula in the Neck. F. Putzu.

July 24, No. 30, pp. 813-840

131 Blood Findings in Case of Hemorrhagic Purpura. (Ricerche ematologiche in un caso di malattia di Werlhof.) S. Maggiore.

132 Pathologic Anatomy in Case of Diabetes Without Lesions in the Pancreas. E. Cedrangolo. Commenced in No. 29.

July 31, No. 31, pp. 841-868

133 Manometer Findings with Induced Pneumothorax. A. Fagiuoli.

134 Pain of Central Origin. G. Mattirolo.

135 Chronic Hemolytic Acholuric Jaundice with Splenomegaly. G. Cantoni and C. Milani. Commenced in No. 28.

Hospitalstidende, Copenhagen

June 28, LIV, No. 26, pp. 705-736

136 Traumatic Ossifying Myositis. K. Poulsen. Commenced in No. 25.

July 12, No. 28, pp. 761-792

137 Negative Wassermann Reaction in Three Cases of Untreated Tertiary Syphilids. A. Reyn.

138 Lesion in Side of the Cervical Spinal Cord. (Tilfælde af begrænset Sidelæsion af Halsmarven.) A. Wimmer. Commenced in No. 27.

July 19, No. 29, pp. 793-824

139 Experiences with Gastroptosis and Principles for Gastropexy: Seven Cases. L. Kraft.

Ugeskrift for Læger, Copenhagen

July 20, LXXIII, No. 29, pp. 1063-1100

140 Disease of the Ears in Relation to Life and Accident Insurance. (Øresygdommenes Betydning for Livs- og Ulykkesforsikring.) H. Mygind.

July 27, No. 30, pp. 1101-1138

141 Boarding Out the Insane in Families. (Om Familieforplejning af Sindssyge.) F. Hallager.

August 3, No. 31, pp. 1139-1170

142 Phenolphthalein as Laxative. (Nogle Bemærkninger om Phenolphthalein som Afføringsmiddel.) A. Borgbjærg.

143 Institutional Principles in Care of the Insane. (Plejeanstaltsprincipet i Sindssygebehandling.) F. Krarup.

August 10, No. 32, pp. 1171-1202

144 Gastric Ulcers in the Tuberculous. (Ulcerationer i Ventriklen hos Tuberkuløse.) L. Melchior.

August 17, No. 33, pp. 1203-1238

145 Case of Alcaptonuria with Ochronosis. V. Poulsen.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

A System of Medicine. By Many Writers. Edited by Sir Clifford Allbutt, K.C.B., M.A., M.D., Regius Professor of Physic in the University of Cambridge and Humphry Davy Rolleston, M.A., M.D., F.R.C.P., Senior Physician, St. George's Hospital, Cambridge. Volume IX. Diseases of the Skin With General Index. Cloth. Price, $6 net. Pp. 869, with 170 illustrations. New York: Macmillan & Co., 1911.

Elements of Physiological Psychology. A Treatise of the Activities and Nature of the Mind From the Physical and Experimental Points of View. By George Trumbull Ladd, LL.D., Emeritus Professor of Moral Philosophy and Metaphysics in Yale University, and Robert Sessions Woodworth, Ph.D., Professor of Psychology in Columbia University. Cloth. Price, $4 net. Pp. 704, with 153 illustrations. New York: Charles Scribner's Sons, 1911.

Transactions of the Southern Surgical and Gynecological Association. Volume XXIII. Twenty-Third Session Held at Nashville, Tenn., December 13, 14 and 15, 1910. Edited by W. D. Haggard, M.D., Nashville, Tenn. Cloth. Pp. 532, with illustrations. 1911.

The Coming of Evolution. The Story of a Great Revolution in Science. By John W. Judd, C.B., LL.D., F.R.S., Formerly Professor of Geology and Dean of the Royal College of Science. Cloth. Price, 40 cents net. Pp. 171. New York: G. P. Putnam's Sons, 1911.

Heredity in the Light of Recent Research. By L. Doncaster, M.A., Fellow of King's College. Cloth. Price, 40 cents net. Pp. 143, with 12 illustrations. New York: G. P. Putnam's Sons, 1911.

The Journal of the
American Medical Association
Published under the Auspices of the Board of Trustees

Vol. LVII, No. 14 Chicago, Illinois September 30, 1911

THE RELATIONSHIP BETWEEN DISEASES OF THE EAR AND THOSE OF THE EYE*

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I must felicitate the members of this Section on the excellency of our program for this meeting, giving due credit to our worthy Secretary, whose ability in this direction is certainly most commendable. It leads me to urge the adoption of the suggestion from one of our former Chairmen as to the advisability of retaining, for several years, the same man in this office and thus assuring the Section the prospects of a well-arranged and scientific program.

This is the first time that we have met in this far-famed western municipality and, while the workers in oto-laryngology of this Section are known to us through medical literature, we are glad to-day to recognize the imprint of their personality.

It has been a time-honored custom for your Chairman to deliver an address at the opening of our Section meetings, but in the last few years such officers have handled with eminent literary thoroughness every phase of the history and progress of the oto-laryngologic work, so that there is little left in the field which can be considered otherwise than personal views. For some time past much has been written concerning the relationship between diseases of the eye and the nasal cavities with their accessory sinuses, but with the exception of the ophthalmoscopic appearances of the optic disk in cases of suspected brain abscess from middle ear suppuration and the question of nystagmus in labyrinthine involvement, the articles which have appeared in our medical literature on the relationship between diseases of the eye and ear have been quite limited in number. The advanced conservative radical treatment of diseases of the nasal cavities has certainly had a very marked influence in lessening many diseased conditions of the eye, notably that of the lacrimal apparatus, for where we were accustomed to see dozens of patients sitting around our clinic with probes in their lacrimal ducts, now we see but half the number. This is attributed to the attempt being made to give the nasal cavities freer ventilation by the removal of all obstructions.

On the other hand, with the exception of a few scattered articles, notably those of Moos, Rohrer, Rollet and Park Lewis, there have been but few clinical presentations of the relationship between diseases of the eye and those of the ear.

It has only been within the last few years that the teaching of otology in our medical schools has been given an independent chair or an association with rhinolaryngology, as previous to this time it was quite universally associated with the chair of ophthalmology, especially in the smaller medical schools, and even to-day such exists in some of the medical colleges of this country. While such a relationship seems anomalous in the light of our present studies in oto-laryngology, there nevertheless exist some clinico-pathologic grounds for this condition, as is exemplified by the reports from those whose daily practice embraces diseases of both the eye and the ear.

Some vague suggestions have been heard of preferring to limit the chairmanship of this Section, as in other Sections, to men whose practice lies exclusively in that domain for which the Section stands. In other words the Chairman of this Section should be a man whose work is exclusively oto-laryngologic, just as the Chairman of the Section on Ophthalmology should be one whose work is exclusively ophthalmologic. Such ideas to my mind would be detrimental to the best interest of our Section, for this national Association embraces in its membership those whose life work and practice are confined to the small as well as to the larger municipalities, and it is only in the largest cities that a man's clientele is sufficient to allow him to confine his practice to one single organ of the human body. Consequently if such a rule were adopted, our chairmen could only come from the largest cities, while the men from smaller places, doing equally as good work, would be considered ineligible. Such ideas may be very good in theory, but in practice they are certainly not to be commended, for at the present time there are few men doing ophthalmologic work who do not also embrace the oto-laryngologic in their practice, and vice versa this is true but to a smaller extent.

While it is a fact that the oto-laryngologist may work almost independently of the ophthalmologist the reverse is certainly not the case. as has been forcibly demonstrated during the last few years. No man can be a thorough ophthalmologist without having considerable knowledge of oto-laryngologic diseases. He who daily observes diseases of the eye, ear, nose and throat, who studies closely the correlationship of these organs with certain diseased manifestations in each and the end result of their treatment, is certainly more capable of making a correct diagnosis than the man who has to consult a colleague, who in turn only sees and draws conclusions from certain local appearances and who can never thoroughly imbibe the history of the case. Such pioneer workers in ophthalmology as Knapp, Greuning, Sattler, Kipp and others recognized this fact years ago and became thoroughly familiar at the same time with oto-laryngologic diseases. I hope, therefore, this Section will maintain broader views than that only men who practice exclusively oto-laryngology should be selected as its Chairmen.

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* Chairman's address before the Section on Laryngology, Otology and Rhinology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

With this preface I wish to review in a very cursory manner the literature bearing on the relationship between diseases of the eye and the ear, and as I do not desire to occupy much time in this address the subject must of necessity be far from exhaustive.

When we recognize the fact that medical literature teaches us it was the ophthalmologist who first pointed out the presence of nystagmus in certain diseased conditions of the middle and internal ear, a subject which of late has occupied so much of the otologic discussions, it seems quite fitting that we should look for a moment into the pathologic relationship between these two organs. In taking up the literature of the subject, I have availed myself of all the writings at my command and have quoted freely from them, in order that we may clearly recognize the importance of workers in oto-laryngology being familiar with ophthalmology just as the reverse is even more to be desired.

I. AFFECTIONS OF THE EYES WHICH HAVE BEEN CONSIDERED THE CAUSE OF CERTAIN AURAL DISTURBANCES

In 1898, Rohrer, in a very exhaustive article on this subject, urged a very ingenious embryologic and histologic relationship between the eyeball and middle ear. He makes the cornea homologous with the promontory and the pupil with the labyrinthine windows; the conjunctival sac with the middle ear and the nasal duct with the tuba Eustachii; the tear glands with the acinous glands of the tube, the drum membrane homologous with the membranous portion of the eyelids.

Ostmann, in 1897, called attention to the fact that the eye is much more commonly affected by the ear than vice versa. Affections between these organs may be induced through reflex radiation and combined stimulation of the motor fibers or indirectly through otitic diseases of the brain and cerebral meninges. The nerve tracts which permit these relations between the eye and the ear according to this author are—the trigeminal, facial and acoustic nerves, the latter giving rise to a great variety of reflex effects on the eye according to the involvement of the vestibular branch (static function) or the true auditory nerve, the cochlear branch. Both the eye and the ear are abundantly supplied with sensory fibers from the trigeminus, accounting for the pain in the eye that is felt in severe middle ear suppuration. The facial nerve establishes a communication between the eye and the ear by enervating the stapedius muscle on the one hand, and the orbicularis palpebrarum on the other. It is for this reason that a deep, humming sound in the ear is perceived on tightly shutting the eyelids, which is interpreted as a muscular bruit originating from the stapedius.

As a corollary to this, Moos has reported a case of a woman 60 years old, who had a ringing in her left ear whenever she put on her nose glasses; when she removed them the noise disappeared. This was attributed to a reflex spasm of the stapedius muscle.

Dr. Geo. Stevens, in 1881, before the International Medical Congress, reported several very interesting cases in which aural tinnitus was diagnosed as due to a muscular imbalance in the eyes, relieved by graduated tenotomies of certain extra-ocular muscles, and Dr. Theobald, in 1909, before the Section on Ophthalmology of this Association, reported four cases, besides having observed many others where certain aural disturbances such as tinnitus, muffled and stuffy sounds, and even vertigo were entirely relieved by the correction of definite eye-strains. I myself had been skeptical of this latter statement, but only within the last few months a case came under my own personal observation where severe tinnitus aurium was relieved by the proper correction of a refractive error.

A case has also been reported by Rollet in which a tinnitus was produced whenever the ophthalmoscope was used in the eye on the same side and which ceased immediately after.

D'Arsonval has reported deafness for two hours following the looking at a Voltas light for a few minutes and he believes that it was due to the irritation produced by the ultra violet rays.

Moos, in 1898, reported a case of bilateral panophthalmitis following bilateral cataract extraction which was followed by meningitis and finally by complete bilateral deafness—a case of direct extension of the pathologic process rather than reflex radiation.

De Capdeville has reported two very unique and interesting cases: The first was in a blacksmith into whose left eye had been driven an iron chip. The latter produced considerable traumatism, but was finally extracted. Severe inflammation followed, however, and on the twentieth day after the accident, the left ear began to be affected with tinnitus and deafness. Nothing abnormal could be discovered about the ear. Finally the eye was enucleated and on the next day all subjective phenomena in the ear had disappeared and the hearing became normal. In the second case he reported that of a woman who four months after a cataract extraction showed some ciliary injection and later severe irido-cyclitis with supraorbital pains. Following a subsidence of the acute pain, the ear on the same side became affected with tinnitus and diminution of hearing, so much so that finally the hearing disappeared entirely and the eye symptoms continued. Enucleation was eventually performed which relieved the tinnitus and vertigo, but the hearing remained defective.

To these cases can be added those of Dransart: In the first case a tinman, 28 years old, was injured in the left eye by a chip of iron. This latter was removed, but traumatic changes were left. Later the patient received a blow in the right eye and this was followed by deafness in the right ear. Later an iridectomy was made in the right eye which was followed by improved hearing on the same side.

The sixth case reported is interesting and even startling: A journalist, 56 years old, had entropion of the right lower lid. At the request of the patient this was operated on with good results. Following this, the patient, who had been deaf since his eighth year, reported that he could hear perfectly well.

Bouchut relates the case of a young man who was struck by a ball over the right eye, producing a contusion and finally dimness of vision. This was followed by almost complete deafness in the corresponding ear. These cases certainly seem unique and must be considered in the light of severe reflex irritation rather than through any direct pathologic relationship.

With the exception of the case referred to, I have never seen any other in which aural disturbances could be considered as due to pathologic conditions of the eye, but we are compelled to recognize the fact that such exist, for they have been reported by competent observers.

II. AFFECTIONS OF THE EAR WHICH HAVE BEEN ATTRIBUTED AS THE CAUSE OF CERTAIN OCULAR DISTURBANCES

Here we realize that every ophthalmologist should be familiar with diseases of the ear if he wishes to be thoroughly competent to make a complete diagnosis. This subject is too extensive to be even partially handled in an address like this, and in making a review of the literature embracing this point I shall be able to barely mention its salient features.

During the last two or three years our medical journals have been filled with clinical reports and discussions on labyrinthine diseases of the internal ear and especially concerning the question of nystagmus as a means of diagnosis. No one could underestimate the wonderful scientific work which has been done by Barany and others as an aid to the differential diagnosis of internal ear diseases and no one knows better than the ophthalmologist the difficulty and uncertainty which surrounds the question of nystagmus and how frequently it can be made manifest in diseases other than those of the internal ear. The aurist and ophthalmologist must work together if this symptom is to be recognized as one of positive value; this again teaches us that it is of distinct assistance for the aurist to be a good ophthalmologist.

The effect of labyrinthine changes on the eye and that of brain abscess, has been too extensively considered and discussed for further comment in this address. Consequently I shall exclude these questions and only mention such as are not so familiar in aural and ophthalmologic literature.

Affections of the ear, especially middle ear diseases, have long been known as capable of giving rise to ocular paralyses. In the majority of cases the paralysis involves the external ocular muscles on the side corresponding to the otitis and it appears independently of meningitic symptoms.

The study of the anatomico-physiologic relations between the organ of hearing and that of sight readily explains such a relationship of the ear to the ocular apparatus, but the difficulty begins when we try to interpret the symptoms and to establish the pathogenesis of ocular palsies of otitic origin. According to Urbantschitsch, they were first vaguely considered as reflex disturbances. Later under the influence of the microbic theories, according to Berger, they were attributed to infectious neuritis due to toxins produced by ear infection. Numerous cases have been observed, however, in which the paralysis very probably owes its origin to the direct propagation of an infectious lesion—Gradenigo, Terson and others.

Of course, these remarks are not meant to cover the grave cases of otitic suppuration, giving rise to severe cerebral complications (abscess of the brain, meningitis, intracranial thrombo-phlebitis) in which the infectious origin cannot be doubted. The oculomotor paralysis in these cases is merely a side phenomenon of secondary importance.

The frequent occurrence of paralysis of the sixth pair in affections of the middle ear is accounted for according to most authors by the special relations between otitis and this nerve through the carotid canal, while Perkins believes that the majority of these cases are due to osteitis of the petrous tip.

A series of noteworthy contributions to this subject was published by P. Bonner who, in 1893, called attention to the labyrinthine oculomotor connections and gave as labyrinthine symptoms the oculomotor disturbances through radiation, such as strabismus, diplopia, miosis, etc. Bonner, in the same year, also reported an observation on a patient who suffered repeatedly from disturbances of accommodation in the right eye after strong injection into the right ear for the removal of cerumen and even became presbyopic for several hours, all of which disappeared with the removal of the cerumen. While the occurrence of reflex paralysis seems to have been demonstrated clinically as well as experimentally for the external recti of the eye, the problem is not so clear in cases of the other muscles.

De Lapersonne observed a case of paralysis of the superior oblique which he thinks referable to the same origin. Not only the extrinsic muscles of the eye, but also the intrinsic muscle tissue may present reflex paralysis in consequence of a lesion. Paralysis of accommodation has been reported (Boerne Bettman) as also mydriasis and myosis. Such an occurrence does not even seem to require a serious reaction on the internal ear such as takes place in the presence of vertigo, severe pain, tinnitus and deafness. A weak irritation sometimes suffices and the starting point may be the external ear. Sabrazes reported a case on unilateral mydriasis caused by the presence of a fragment of barley in the internal auditory canal. An analogous case was published by Brandelier; the foreign body was cerumen around a glass bead.

According to Moos, an infectious process of the ear may be propagated from the petrous bone to the meninges, along the trigeminus as far as the Gasserian ganglion, and according to Wiethe, by way of the tympanic and pterygoid venous plexus as far as the ophthalmic vein, where it gives rise to an orbital abscess.

Urbantschitsch has reported a case where dilatation of the pupil was induced in a patient by the rapid change of air pressure in the tympanic cavity, and cases where a suppurative process of the middle ear has influenced the dilatation and contraction of the pupil have been reported by Moos, Schwartze, Gelle and Gervaïs. Certain observations as to reflex action on the muscles of the eye-lid have been made.

In a case of Desterne a single air douche of the middle ear was followed by the cure of a twitching of the right eyelid which had persisted for over a year. Schwartze mentions the cure of a ptosis after the removal of an ear polyp. Blepharospasm due to the introduction of an ear speculum was noted by Buerkner, and Buzzard observed blepharospasm due to a plug of cerumen in the auditory meatus.

Ostmann, while making mention of these reported cases of seemingly reflex paralysis and spasm, does not believe in the reflex irritation theory, but thinks that such is rather due to intracranial complications. Kipp, as early as 1884, reported two cases of metastatic panophthalmia in connection with middle ear suppuration and this very observant ophthalmologist was one of the first men to call attention to the symptom of nystagmus in connection with severe middle ear diseases—a fact which should always be remembered in discussing the history of labyrinthine diseases.

In this connection it should also be mentioned that Kitamura has reported a case of metastatic ophthalmia as a sequel to sinus thrombosis. Urbantschitsch, in 1908, contributed a very long and exceedingly interesting article on "Subjective Acoustic Phenomena and Subjective Visual Concepts," in which he dealt with sensations of sound and color which accompany unconscious cerebration. Various color sensations may modify the subjective perception of musical composition. Simultaneous excitation of the two eyes by different colors produce changes in the subjective hearing which do not occur with one. I have a friend on whom certain high notes produced the sensation of violet and many such instances could be mentioned of this physico-psychic phenomenon.

I cannot close this paper without mentioning an article by Professor Peters of Rostock, who published in Vol. 36 of Knapp's *Archives of Ophthalmology* an article on miner's nystagmus in which he undertook to show that this condition could be well accounted for by the influence of the vestibular apparatus of the ear on the movements of the eye, particularly nystagmus. He shows good authority for such ideas as founded on the experiments of Breuer, Ewald and others. That nystagmus is produced through irritation of the semicircular canals is now fairly well established, as the number of cases reported in the last two years by otologists will testify; and the prominence of this symptom as shown by Barany and others as a diagnostic sign of vestibular irritation—Peters' argument—is by no means illogical and certainly opens a new field for further investigations.

In conclusion, let me urge otologists as well as ophthalmologists to bear in mind these relations of which I have spoken, for my own observation leads me to believe that many mistaken diagnoses have been made by not considering the interdependence of the various organs of the body.

THE LEUKOCYTOLOGY OF TYPHOIDAL DISEASES, AS A GROUP-PHENOMENON WITHIN THE TYPHOID-COLON FAMILY OF BACILLI (TYPHACEÆ)*

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Typhoid and paratyphoid bacilli, the bacillus of Gärtner, the paracolon, colon and dysentery bacilli belong to one family.[1] Botanically, they are branches of one tree. There are no permanent, fundamental, cultural[2] or morphologic differences between them.[3] The identification of a single member of this group by any special culture-medium has not been realized. The primordial kinship and common ancestry of these allied germs is demonstrable in many ways. It is only by acquired or biochemical properties that members of this group differ from each other. The Widal reaction, as Durham first showed, is only electively specific, not strictly so in the sense of Widal's and Buchner's words. The teaching of exclusive specificity in medicine produced not only passive, *laissez-faire* clinicians and therapeutic nihilists, but also a crop of specific public hygienists. Pasteur's conception of a specific pathogenic agent for infectious diseases shows the inspiration of a genius, Richet's anaphylaxis and Bordet-Gengou's complement deviation are of incontestable benefit to mankind, but somehow these several discoveries have not accomplished what they seemed to promise. The conditions under which a germ of a given group becomes pathogenic for man are as yet very obscure; even the rules of immunity as applied to anaphylaxis stand on their head.[4] It is certain that our reasoning on the ground of the strictly specific pathogenesis of germ diseases is too narrow. Anatomic and clinical phenomena do not justify the strict separation of typhoid and paratyphoid fevers.[5] Their epidemiology belongs together.[6]

I believe that the epidemiology of all infectious diseases, their morbidity and mortality statistics, their pathogenesis, their pathology, and clinical manifestations will be better understood when we shall study them collectively by groups, rather than individually. Just as in qualitative chemistry, there is shown in qualitative bacteriology[7] a distinct arrangement into botanical families. The law of periodicity of elements as propounded by Mendeleeff[8] in 1869 is applicable to the realm of microorganisms. Even now the laws of chemistry begin to dominate bacteremic processes.[9] That such reasoning is logical is proved by the following:

Germs, like chemical elements, can be arranged into definite groups, because, first, their individual members are morphologically similar; second, they feed or may eventually be made to feed[10] on the same culture-media; third, they show a distinct racial attitude toward oxygen and nitrogen; and fourth, their biochemic products bear plainly the stamp of family-reactions, as proved by Pfaundler's co-agglutinins, and by their leukocytic reactions. Andrewes[11] has found that guinea-pigs are co-sensitized toward paratyphoid germs and colon bacilli by previous injections of typhoid bacilli. From the standpoint of histochemistry and histopathology the classification of infectious diseases into groups suggests itself. The serum and tissue reactions of the typhoid-colon group, of the anaerobic intestinal flora, and of the streptopneumococcus family are group phenomena. The leukocytology of these infections furnishes the biochemical proof of the generic kinship between the members of these bacterial races. Clinically, this grouping of infectious diseases is very striking and, in my opinion, constitutes another proof of the existence in nature of the cyclic or periodic arrangemnt of germs — of living, organic molecules — parallel to that discovered by Mendeleef in regard to chemical elements. It is not unlikely that the teleological scheme of this grouping exists for the induction, maintenance and consumption of the circulation of elements within the human body. The generic, racial or electively specific activity of the typhoid-colon group is spent on the growth and the decay of the protein molecules in the intestines.[12]

As to whether infection and immunity in man show evidences of an evolutionary or mutating character of germs, and of their reactions on the host, I cannot discuss at this time. Suffice it, now, to take up the present status of pathogenesis, and clinical and epidemiologic significance of the leukocytology of typhoid and paratyphoid fevers.

My object in writing this article is, first, to enounce and promote the group study of typhoid infections;

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

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2. Rubener: The Importance of Paratyphoid Bacilli; Berl. klin. Wchnschr., June 13, 1910, p. 1908.
3. Müller, Reiner: Ueber Paratyphus, Deutsch. med. Wchnschr., Dec. 22, 1910, p. 2397.
4. Besredka, A.: Anaphylaxis, Handbuch der Immunitäts-Forschung, 1911, Supp. vol. i.
5. Rolly, Fr.: Zur Paratyphus Frage, München. med. Wchnschr., March 14, 1911, p. 556.
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7. Jackson, D. D.: Classification of the Bacillus Coli Group, Jour. Infect. Dis., March 6, 1911, p. 246.
8. Mendeleeff, D. I.: A Conception of Ether, St. Petersburg, 1869, New Translations by George Kamensky, London, 1905.
9. Horovitz, A.: Biochemical Rôle of Bacteria, Arch. d. Sc. biol., St. Petersburg, 1910, xv, No. 1.
10. Bradley, Burton: Biochemical Characters of the Bac. Typhus; Proc. R. Soc., February, 1911, iv, No. 4, p. 43.
11. Andrewes, F. W.: The Leukocytes in Infection and Immunity; Lancet, June 25, 1910, p. 1739.
12. Fisher, Van Loghem Citing: Varieties of Typhoid and Allied Bacilli, Centralbl. f. Bacteriol., Feb. 1, 1911, lvii, No. 5.

second, to show why we should suspect and diagnose them earlier than hitherto; third, to discuss the part played by the tissue-cells in the production of group-characteristics versus the specific theory of one individual germ; and fourth, to revaluate the significance of the Widal reaction.

The study of the individual members of the typhoid, paratyphoid colon group has demonstrated a marked discrepancy between the morbidity and mortality statistics of these affections. Indeed, Hazen's[13] theorem of the Mills-Reinke phenomenon is an attempt to cover up this breach in the epidemiology of these water-borne diseases, the generic relation of which was recognized by a layman before clinicians thought of it. The classification of water-borne and food-borne diseases, however, should be based on clinical evidences mainly.[14] The early bacteriologic diagnosis serves essentially to identify the group to which the germ belongs,[15] cultural tests being insufficient and serologic reactions occurring late in the disease. In order to diagnosticate a case of typhoid or paratyphoid infection early we must suspect it earlier, that is, even before clinical evidences have become manifest. In typhoidal affections the preclinical symptoms consist in the bacillemia and the leukocytic changes, which, presupposedly, must have existed for some time, perhaps for two or three days, before the onset of any subjective symptoms. If at all applicable, the curative vaccine therapy[16] or the medical abortive treatment of typhoid fevers must be applied very early to induce bacteriolytic immunity, in view of the absence of antitoxic and phagocytic antibodies as observed by Vaughan and his school.[17] The end of the first week of typhoid fever is called the diagnostic stage by O. Naegeli.[18] It is then that the leukocyte counts are most valuable, as I have shown before.[19] The early stage of all typhoid infections is the most infectious, because the germs are very numerous in the circulating blood and excreta during the first stage of the disease.[20]

Typhoid bacillary sensitization is a protein poisoning. The manner of the intoxication, rather than its nature, determines the peculiar lymphoid tissue and leukocytic changes of typhoid fevers. The tissues furnish the characteristic reactions rather than the germ, and they do so *in accordance with the manner in which the alien protein is brought in contact with them.* This would account for the clinically polymorphous character of typhoidal and paratyphoid affections. Laurent[21] holds that the number of successive generations of bacilli decide on the severity of the infection. It is probable that the negative phase of antityphoid vaccination,[22] the negative phase of leukopoiesis in rabbits, as observed by Andrews, and the incubation of typhoid fevers in man are illustrations of one and the same process.

The revaluation of the Widal test is imperative. This reaction is less specific than formerly believed, but its scope is widening since Pfaundler's work. Its late appearance is its chief drawback, and, owing to the indefinite onset of the disease, an early Widal reaction should always be viewed with suspicion.[23] Its value as a means of group-diagnosis has increased, while in specific diagnosis it has admittedly lessened. The pre-Widal diagnosis of typhoidal diseases should be the rule, not the exception. Paratyphoid affections are seldom recognized in practice and are often classed as ptomain poisoning, gastric fever,[24] mucous gastritis[25] or walking typhoid fever. The existence of intermediate forms of the typhoid colon group, the insensible gradations from the bacillus of Eberth to the bacillus of Escherich, and the exceedingly important pathogenic, hematologic, epidemiologic and clinical characters, varying in crescendo or diminuendo with the distance of a given germ from the top or the foot of his family tree, is unfortunately but little known in medical books.

The incentive for this work grew on me in the course of the last six years, while making routine blood examinations on all of my patients. The value of careful hemanalyses[26] has been recognized by several authors, especially in differential diagnosis.[27] Other reasons impelling me in this line of investigation were the following considerations: Clinically, it is characteristic of the members of typhoid-colon dysentery group to produce ulcers, owing to the lymphotoxic effects of their poisons. While the ulcers of typhoidal and dysentery group show a distinctly segmental intestinal localization, the colon bacillus produces ulcers of the stomach (F. B. Turck), appendix and large bowel. The higher in the scale of this group a given bacillus is, the longer the incubation, the greater the crescendo of negative leukopoiesis, the more marked the immunity, the less the facultative saprophytism and the more pronounced the clinical condition known. I am referring to the bacillus of Eberth. With a preliminary generalizing survey of the typhoid-colon group it will be easier to understand the leukocytology of typhoid and paratyphoid fevers. The diagnostic and prognostic significance of complete successive blood-counts will then explain itself. It is to be hoped that cytology may clear a situation which has lasted for thirty years, and for which twenty years of humoral pathology have not accounted. Typhoid fever does not spontaneously occur in lower animals. The typhoid peritonitis of guinea-pigs is no parallel to typhoid fever in man.[28] Experimental bacteriology is of little use here. Combined bedside and leukocytic data furnish the safest basis for clinical reasoning and for a correct attitude toward the pathogenesis of infectious diseases. The leukocytology of typhoid and paratyphoid fevers is another proof for the distinct generic relations between the members of this group. It throws light on the reciprocal relation between incubation and immunity. The pathogenesis of the typhoid blood-picture must not be ascribed to the endotoxins *per se.* but to the lymphoid tissue reactions which they call forth. Any chronic tissue lymphocytosis may produce a similar blood-picture, for instance, the first stage of tuberculosis and splenic anemia. The generalized endothelial and lymphoid cell hyperplasia described by Mallory,[29] Edsall,

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13. Sedgwick-McNutt: The Mills-Reinke Phenomenon, Jour. Infect. Dis., Aug. 24, 1910, p. 489.
14. Brion, Arthur: Typhus-Paratyphus, Modern, Clinical Medicine, 1910, p. 60.
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16. Richardson, W. W.: Treatment of Typhoid Fever, Mass. Gen. Hosp. Rep., 1908-1909, ii, 97.
17. Vaughan, V.: The Specific Treatment of Typhoid Fever, Am. Jour. Med. Sc., September, 1908, p. 330.
18. Naegli, O.: Ueber das Erkennen Typhus-ähmlicher Krankheiten, etc., Cor.-Bl. f. schweiz. Aerzte, 1902, xxxii, 109.
19. Hultgen, J. F.: The Pre-agglutination Diagnosis of Typhoid and Paratyphoid Fevers, Tr. Chicago Pathol. Soc., August, 1909, p. 270.
20. Von Ivigalski and H. Conradi: Ztschr. f. Hyg. u. Infect. Krankh., 1902, xxxix, 298.
21. Laurent, E.: Virulenz-Problem der pathogenen Bacterien, Fisher, Jena, 1910.
22. Vincent, H.: Typhoid Vaccination, Bull. d. l'Acad. de méd. de Paris, Jan. 24, 1911, p. 63
23. Drysdale, J. H.: The Agglutination Reaction, Allbutt's System of Medicine, 1905, i, 693.
24. Schlegelmann, Albert: Febris Gastrica, München. med. Wchnschr., 1911, No. 6, p. 299.
25. Schneller: Febris Gastrica, München. med. Wchnschr., 1911, No. 10, p. 515.
26. Cabot, R. C.: Differential Diagnosis, Phila., 1911, p. 406.
27. Tompkins, McGaw: Atypical Onset of Typhoid Fever with Report of Cases, Old Dom. Med. Jour., March 19, 1911, xii, No. 3.
28. Metchnikoff, E., and Besredka, A.: Rechurches sur la Fièvre Typhoide Expér., Ann. de l'Inst. Pasteur, March, 1911, No. 3.
29. Aschoff: Pathological Anatomy, 1909, ii, 353.

Longcope[30] and others and observed by Virchow, depends on the manner of intoxication, rather than on the nature of the intoxicant. Indeed, the colon bacillus produces a disease not only clinically identical with typhoid fever, as Coleman and Hastings report,[31] but also with the blood-picture as that observed in Eberthian infection.

The material for the present report consists of cases of typhoid and paratyphoid fever in my private practice and from the Englewood Hospital. The patient's leukocytes were examined every two or three days during the course of the disease. In this way I was able to secure from two to ten and twelve total and differential leukocyte counts for each day, with the exception of the first two days. This is, of course, quite excusable in view of the usually insidious and indefinite onset of typhoid fevers. From the literature I could gather only total white blood-counts, differential analyses being so rarely and poorly made that I had to abandon their use in this report. As many blood examinations were made as the patients and circumstances would allow. Arneth's method of establishing by nucleo-analysis a polynuclear blood-picture was not used, although most of the writers in this country follow this investigator. I consider it very important to examine *in toto* the white blood-life of the patient, by estimating the hemoglobin, securing the total leukocyte number, and dividing the white cells into four classes, the polymorphonuclear, the small mononuclears, the large mononuclears with the transitionals, and the eosinophils. The basophils were omitted as of little value. Care was taken not to make the blood-specimen right after a cold bath or cold sponge as Winternitz and Thayer cautioned.[32] The following nomenclature was thought more accurate, more simple and descriptive than either Arneth's[33] or Sondern's. For the total number the terms "normocytosis," "hypercytosis" and "hypocytosis" were used. In the differential counting I arranged the white cells into the polynuclear, mononuclear, mixed or di-cytosis, according to the percentages of either the polynuclears or mononuclears, or of both, being above or below the normal proportions. The reasons for this I have explained elsewhere.[34] The normal blood-picture being a dinormocytosis, I was able to establish the leukocytic alterations during the entire course of typhoid and paratyphoid fever. The physiognomy of this continual blood-picture may be summed up as follows:

Polynuclear hypercytosis (several hours, probably).
Polynuclear normocytosis (probably lasts only a day).
Polynuclear hypocytosis (up to 10-15th day).

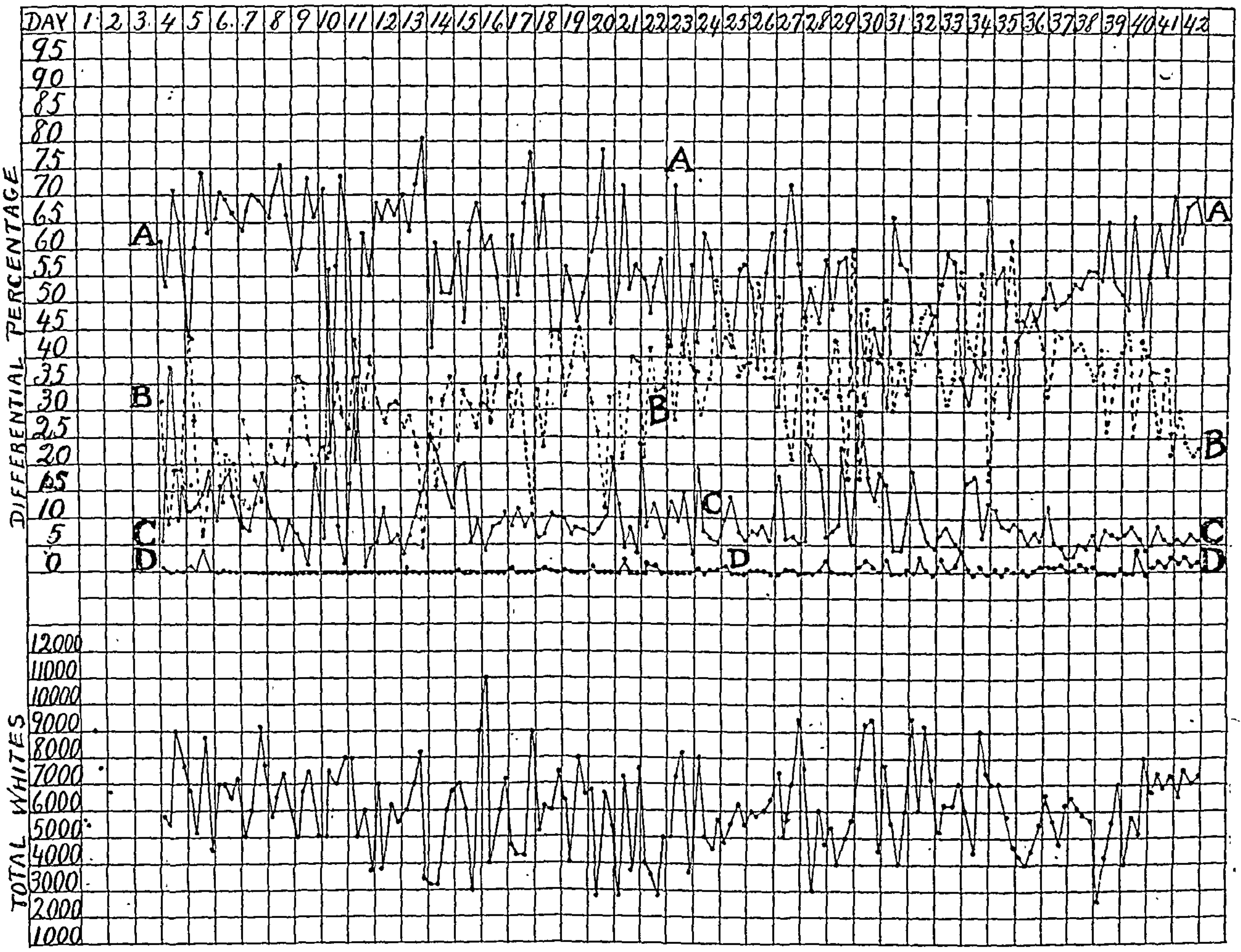

Chart 1.—The leukocytology of ortho-typhoid fevers. Four counts from each day for six weeks, obtained from thirty-six patients in private practice. A indicates polynuclears; B, small mononuclears; C, large mononuclears; D, eosinophils.

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[30] Longcope, Warfield: Rep. Ayer Clin. Lab., March, 1905.

[31] Coleman, Warren, and Hastings, T. W.: Bacillus Coli Communis, Am. Jour. Med. Sc., February, 1909, p. 199.

[32] Thayer, W.: Increase in Leukocytes Following Cold Baths in Typhoid Fever, Bull. Johns Hopkins Hosp., April, 1893, No. 4, p. 30.

[33] Arneth, J Tuberculosis Pulmonum., München. med. 542.

[34] Hultgen, Its Nature and Significance, Quart. Bull. Northwestern Univ. Med. School, December, 1910, xxi, No. 3, p. 163

Di-normo-hypocytosis (10-15-18th day).
Mononuclear hypocytosis (15-25th day).
Mononuclear normocytosis (20-30th day).
Mononuclear hypercytosis (25-35th day).
Mixed or di-hypercytosis (30th-45th day).
Di-normocytosis (40-50th day).

Charts 2 and 3 are arranged schematically. Chart 1 illustrates the comparative constancy of a typhoidal blood-picture, persisting in spite of the well-timed shifting of its ingredient leukocyte-curves. The blood-picture of typhoid and paratyphoid is typical during the entire course of the disease. Its differential diagnostic value is as *great in the fourth week as in the first week.* It goes without saying that these total and differential leukocyte-curves represent the movements of the leukopoietic tissues (lymphoid cells, spleen and bone-marrow). As such their great prognostic value becomes self-evident.

A few preliminary remarks on the leukocytology of these kindred affections:

It is, of course, natural to accept the fact that in short duration, abortive or walking typhoid (see Chart 3) or paratyphoid fevers the leukocyte picture shows curves which are much shorter, though otherwise identical with those seen in true typhoid fever. It is also easily conceivable that the cytology of these infections in children would be tinged with the attributes of youth—resiliency, if not exuberance. Hence the shorter course and the greater intensity of blood-life, more lymphocytosis, relative and absolute, a lesser and shorter leukopenia and more marked mixed hypercytosis. Youth, health and the intensity of the existing affections must be considered in the framing of the typhoid-paratyphoid blood-picture. In judging the diagnosis or the prognosis, it is essential to base our opinion on the conjoint clinical and hematologic examinations.

THE INTERPRETATION OF THE TYPHOID-PARATYPHOID BLOOD-PICTURES

After a slight (supposed) initial rise, the total leukocytes drop rapidly and maintain a fairly constant low level until the fifth and sixth week of the disease, when, in juvenile patients or in patients with resilient blood-forming system, they return toward normocytosis, which yield to a more or less transitory mixed leukocytosis and then gradually shifts to a permanent normal level. As to whether these total white-cell changes are due to negative chemiotaxis according to Ehrlich, or due to a typhoid-endotoxin inhibition of the bone-marrow as O. Naegeli believes,[35] cannot as yet be definitely decided on. That the leukocytes are screened in the lung capillaries, as Bruce, Jacob Goldscheider and Andrewes maintain, is a hypothesis to which I cannot adhere. The leukopenia of typhoid affections looks to me like the prolonged ebb of the functional wave of cell immunity, a form of an hematopoiesis characterized by slow production and slow maturation of leukocytes. The polymorphonuclear cells after a probable initial rise diminish at first rapidly in number, then lose gradually but constantly until the end of the fourth week (see Charts 1, 2 and 3), when they return step by step toward the normal percentage. The polynuclear curve crosses the mononuclear wave twice, first on its downward course about the twenty-second or twenty-fourth day, and again on its ascent by the beginning of the seventh week. The small mononuclear leukocytes or lymphocyte curve is the exact counterpart of its predecessor polynuclear. Their movements are always complementary and compensatory. The lymphocytes rise after a slight initial drop, then move at a fairly even subnormal level until the fifteenth or eighteenth day, when they approach and cross their normal line, remain above normal for eight or ten days and then recede gradually into their normal proportions.

The large mononuclears and transitional cells form the most interesting part of the typhoid blood-picture. They are remarkably increased in number up to the end of the sixth week, then they regain their normal percentage. This myelemia, as Pappenheim calls it, was observed by Chetagurow in 1889. The resemblance of their curve to the polynuclear wave is, in my opinion, a very remote one, although Naegeli believes them to "follow the neutrophils mostly." There is no other prolonged leukopenia known to me in which there is such a continually high proportion of large mononuclears. This phenomenon I believe to be explainable in three ways: by a slow maturation of these cells into polynuclears, by their overproduction from the endothelial cells of the lymphoradicles, or by both conjointly.

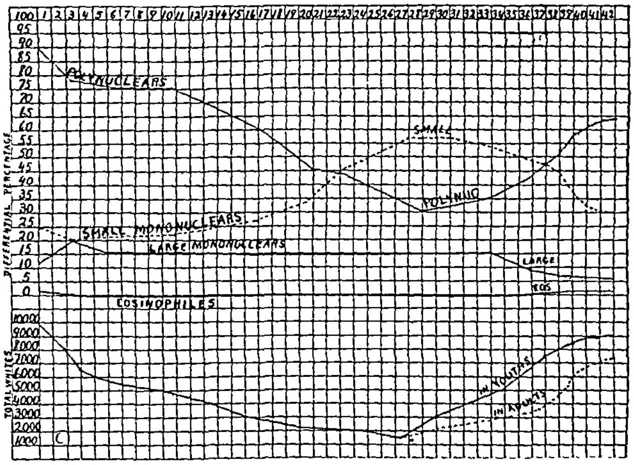

Chart 2.—"Leukocytology of orthotyphoid fever (schematic)."

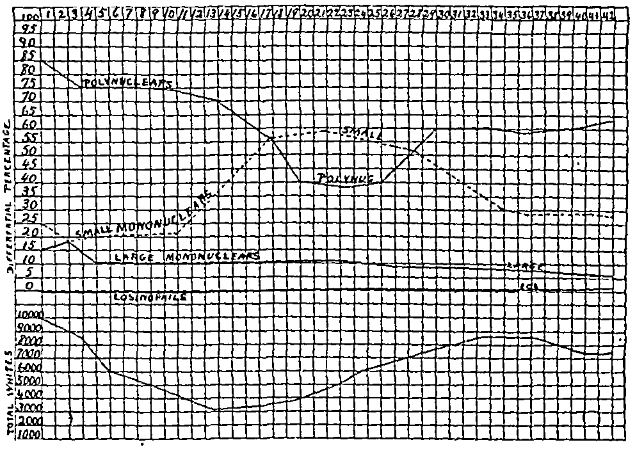

Chart 3.—"Leukocytology of paratyphoid fever (schematic)."

The eosinophils undoubtedly play an important rôle in typhoid fever cytology. I fully agree with Naegeli's dictum that "no febrile disease can be of typhoid nature if the eosinophils are present in normal or half-normal proportions." These cells disappear suddenly and totally, and return very cautiously around the begin- [illegible] sixth week.

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[35] Naegeli, O.: Blutkrankheiten und Blutdiagnostik, 1908, p. 427.

CONCLUSIONS

1. There exists a typical typhoid and paratyphoid blood-picture throughout the course of these diseases.

2. This blood-picture is characteristic of the obligate parasites of the typhoid-colon group and constitutes, probably, the counterpart to that usually found in colon bacillus infections.

3. The leukocyte reactions of typhoid and paratyphoid infections must be interpreted as group-phenomena.

4. In the pathogenesis of this typhoid-paratyphoid blood-picture, the germs and lymphatic tissues play a joint rôle, but the character of the intoxication determines the blood-picture.

5. The diagnostic value of the leukocyte-picture is particularly great during the first ten days, while its prognostic value is especially marked in the last ten or fifteen days of the disease.

6. Repeated, combined total and differential leukocyte-counts must be made throughout the course of typhoid or paratyphoid fevers. The cytology of these affections can be appreciated in no other way.

7. The immunity with leukopenia of the typhoid-paratyphoid group and the immunity with active leukopoiesis of the colon wing of this family are evidently the two extreme phases of one fundamental process.

8. Blood-charts and reasoning by analogy show that the conception of the typhoid blood-picture as a group phenomenon within the typhoid-colon family is correct.

9. Each member of the typhoid-colon bacillus group is able to produce either a toxic gastro-enteritis or a true typhoid affection.

10. The close or fundamental kinship between the numerous members of the typhoid-colon group of bacilli is proved, first, clinically by the time-honored name of typhoid fevers, second, pathologically by their common faculty of producing ulcers in the gastro-intestinal tract, third, cytologically by their blood-picture, fourth, serologically by the coagglutination of Pfaundler, fifth, epidemiologically by Hazen's theorum of the Mills-Reinke phenomenon of typhoid and general mortality.

11. The law of periodicity of inorganic chemical elements, enounced by D. I. Mendeleeff in 1869, is in my opinion applicable to the distinct group-arrangement of organic, living microorganisms.

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REMEDIES FOR ANIMAL PARASITES

A STUDY OF THE RELATIVE EFFICIENCY AND DANGER OF THYMOL AS COMPARED WITH CERTAIN OTHER REMEDIES PROPOSED FOR HOOKWORM DISEASE *

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Thus far I have experimented with about twenty different remedies for ankylostoma aside from the action of various chemicals on the eggs and larvæ. It is desired to consider more in detail four of these remedies which at present seem to me to be of particular interest in treating hookworm disease, to call attention to some of the dangers accompanying the use of each and to suggest what laboratory experiment and clinical experience have shown to be the best method of expelling hookworm by these particular remedies. What I shall have to say, then, is of the nature of an experimental criticism interpreted in the light of many experiments on dogs, especially, infected and studied under conditions that admitted of proper control.[1]

THYMOL

One of the first substances to be used with any degree of success is thymol, which is one of the higher phenols known as isopropylmetakresol. It is difficultly soluble in water, 1 gm. in 1,100 c.c., but is very easily dissolved in alcohol, and less so in castor oil, olive oil and fats, than in alcohol. When the dry powder is taken after a twelve-hour fast, with the alimentary tract cleaned out by a saline or calomel purge, but little thymol is absorbed, most of it leaving the intestine by way of the feces. After 3 gm. doses daily for a long period of time, Blum was able to recover from human urine sufficient thymol compounds to analyze. These appear in the urine as thymolsulphuric acid, thymolglycuronic acid, thymolhydrochinonsulphuric acid, and a thymol chromogen. During twenty-four hours after taking 3 gm. of thymol one man eliminated thymolglycuronic acid equivalent to 0.2025 gm. dichlorthymolglycuronic acid.

When absorbed in sufficient quantities it causes marked depression, nausea, vomiting, severe headache, roaring in the ears, weak heart-beat, resulting in a thready pulse, muscle weakness, lowering of the body temperature, dizziness, and general collapse. In my experiments on dogs, the myocardiograms show the heart muscle largely responsible for most of the graver symptoms, its contractions grow more and more weak, resulting in a gradually lowered blood-pressure, until finally, if the amount of thymol in the blood is sufficient, the animal dies from low blood-pressure, due to diminished ventricular output. *Thymol also acts on the* mucous membrane, stimulating secretion of mucin and causing burning sensations and sometimes vomiting, in which case the patient may suffer intensely from its irritant action on the membranes of the mouth, nose, and throat. Should the drug be accidentally drawn into the lungs it may cause grave complications, even consolidation of that part of the lung tissue with which it comes in contact. In general, then, it may be said that thymol resembles phenol (carbolic acid) in action, but is less easily absorbed and is about one-fourth as toxic.

Bozzolo, in 1881, had occasion to treat ankylostomiasis, and discovered that thymol was efficient in expelling the parasite. At first he gave 2 to 10 gm. of the powder a day, followed by a weak alcoholic beverage, so as to have a weak solution of the drug in the alimentary tract. Later he gave 2 gm. every two hours until 12 gm. were given. *In the hands of later workers this treatment* proved effective, but too drastic, and after a number of mishaps smaller doses were recommended, the use of all thymol solvents forbidden, and more emphasis placed on vigorous purgatives to expel the parasites and diminish the possibility of further absorption of the drug after its function as a vermifuge had been fulfilled.

With thymol treatment, as with most treatments for intestinal parasites, too much emphasis cannot be placed on the proper preparation of the alimentary tract and the parasite before administering the antihelminthic. Since thymol combines with proteins and other substances taken as food, and by dilution alone is kept away from the parasites, the alimentary tract should be as empty as possible. To this end only sufficient food is eaten at noon on the day before taking thymol to insure against faintness. The evening meal ought to consist of beef broth; or some form of gruel. At about 8 or 9 p. m. a compound cathartic pill is taken. The following day the treatment proper begins, the best of which seems to be that so clearly outlined by Stiles,[2] in substance being that recommended by the Porto Rican Commission which has reported thousands of successful treatments. It is as follows:

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

* From the Hygienic Laboratory of the U. S. Public Health and Marine-Hospital Service.

[1] The details of the experiments, along with a discussion of the other remedies studied, will appear in a bulletin from the Hygienic Laboratory in the near future.

> At 6 o'clock in the morning, one-half of the dose of thymol is taken in flat, 5-grain capsules, the finely powdered thymol being thoroughly mixed with one-half to one-third its bulk of milk-sugar to insure rapid disintegration of the mass in the stomach and intestine. The patient should lie down until some time after the drug has passed into the intestine; at 7:30 or 8 a. m. the second half of the calculated dose is taken and at 10 a. m. a vigorous purge, either of magnesium sulphate or of compound cathartic pill, is taken. The feces from now until the day following ought to be collected, washed and examined for parasites, and a week later a fresh sample examined for eggs to make sure of the efficiency of the method.

The dose of thymol should depend on the age and condition of the patient. Since absorption is much more rapid in young animals than in adults, and their protoplasm reacts more vigorously, the dose must be reduced. The body cells of badly infected individuals are also less able to withstand the toxic action of the drug, the numerous wounds in the intestinal mucosa favoring increased absorption of thymol, just as in the case of abraded surfaces in contact with phenol. Experiments on animals and clinical experience teach that the dose of thymol for both young animals and those weakened by disease must be only one-tenth to one-fifth that of a vigorous adult. The following doses represent the maximum amount of thymol recommended by the Porto Rican Commission and by Stiles to be given during one day for the age groups, respectively, to be given in two doses and modified, not to the age, but to the apparent maturity and vigor of the patient:

Age, Years.	Grains.		Grams.
Under 5	7½		0.5
From 5 to 9	15		1.0
From 10 to 14	30	or	2.0
From 15 to 19	45		3.0
From 20 to 59	60		4.0
Above 60	30–45		2.0 to 3.0

Treatment with submaximal doses of thymol expels only a fraction of the parasites and renders the residue in some way less susceptible to subsequent doses. Though only a part of the parasites are expelled, the patient at once reacts to the improved conditions of nutrition, the hemoglobin content is increased, the heart strengthened, and in general the bodily health is improved. For this reason instead of following within a few days the first treatment with a second, it seems best to wait and take advantage of the host's increased resistance to the drug because of the increased bodily vigor. Then if tolerance is developed by the parasite, use may be made of one of the other vermifuges discussed later.

Although thymol is generally conceded to be one of the most active hookworm expellants, it has certain drawbacks, chief of which are its irritant action, its toxicity when absorbed, and its tendency to cause tolerance in the parasite in excess of that which it develops for the host. These objections have encouraged the trial of other phenol compounds, but with little success, since those that are less soluble are likewise less active vermicides. Beta-naphthol, however, has been tried and with considerable success.

BETA-NAPHTHOL

Beta-naphthol is a naphthalin derivative, soluble at 25° C. in 950 parts of water and 0.61 parts of alcohol, is quite soluble in olive oil, castor oil, fats, and difficultly soluble in the saliva and in the acid gastric juice. Part of the beta-naphthol is absorbed in the intestine; just how much seems never to have been determined, but that which is absorbed is, according to Edlefsen, excreted by the kidneys as beta-naphthol gluconic acid, beta-naphthochinon, and possibly in other slightly modified forms. One of its chief dangers is that the kidney cells are apt to be affected, resulting in nephritis and subsequent albuminuria. The mucous membranes are affected by it, but there is not that intense burning of the mouth, throat, and stomach, following contact with the dry powder, which is experienced with thymol; on the contrary there is more of a numbing sensation of the tongue. Thus far I have found in the literature no cases of severe poisoning from its internal administration. Most of the cases of poisoning recorded are of patients treated for skin disease, this drug being, like phenol, readily absorbed by the skin when applied in ointments.

Colbert, after trying thymol in a few hundred cases of ankylostomiasis with a number of unpleasant results, employed beta-naphthol. Out of 5,000 patients, 4,056 were cured. A large number, however, had to be treated four or five times before the feces no longer contained eggs. Beta-naphthol is a weaker vermicide than thymol, consequently slower to effect a cure. In spite of this, Colbert recommends it above thymol because of the absence of the more objectionable properties of the latter. Fort, of Georgia, reports 374 successful treatments and recommends it highly.

The experiments in this laboratory confirm the reports of clinicians. Dogs stand beta-naphthol much better than they do thymol. It does not cause vomiting except with large doses and in prolonged treatment. It does, however, frequently produce considerable irritation of the genitalia after urinating, but thus far none of the animals developed either immediate or remote symptoms of a grave character. Since the parasites likewise react less vigorously toward this drug, and in equal doses beta-naphthol seems to be less active than thymol, probably the difference in activity is in proportion to their relative toxicity for the host. If further experiments prove this to be true there is no advantage in substituting beta-naphthol for thymol: less thymol should be used at a time and the number of treatments increased. But should the ratio of relative efficiency and that of the relative toxicity of these two compounds be in favor of beta-naphthol, then it is the more desirable and safer remedy in cases of children, anemic, and aged patients. This point I hope to prove in the near future.

In general the procedure of treatment and the precautions to be taken are the same as those described for thymol. For a vigorous adult the procedure is as follows:

> The patient is placed on a liquid diet: at 3 p. m. a mild cathartic of calomel or salts is given. On the second day at 7 a. m. 1 to 2 gm. of beta-naphthol, mixed with about one-third its weight of milk-sugar, is given in a gelatin capsule: at 8 a. m. 1 to 2 gm. more are given: at 11 a. m. a vigorous cathartic of salts or compound cathartic pill: at 12 a glass of milk and bread may be eaten, and after that the regular diet (Clayton, Fort).

MALE FERN

In Europe there is perhaps no vermicide so widely used as the ether extract of male fern. In the more northern portions of Europe it seems relatively easy to obtain very active samples of the rhizome, but in this country a high quality of it is difficult to purchase on the open market. To insure an active extract the best quality of rhizome, showing the characteristic green fracture, is necessary.

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[2] Stiles, C. W.: Bull. U. S. P. H. and M.-H. S., 1910, No. 30.

Its active principles readily deteriorate with age, not only when isolated as such, but also as the crude extract and even as the dried rhizome itself. The extract is a mixture of substances, amongst which the most important are filicic acid (Lach), aspidin, albuspidin (Boehm), aspidinol (Boehm), flavaspidinic acid (Boehm), aspidinin (Boehm). Poulsson, Boehm, and Straub think that aspidin, albaspidin, and aspidinin are powerful smooth-muscle poisons, and Straub has later shown that male fern is primarily a plasma poison, attacking both smooth and striated muscle without destroying nervous conduction. These properties make it, theoretically, a powerful and effective poison for ankylostoma, and if the amount absorbed by the host can be controlled it has most of the essentials of a good vermifuge.

With due precautions against solvents and against too long contact with the mucosa of the alimentary tract, the factor of absorption can in part be controlled, but even then there is usually enough of the drug absorbed to enable one to detect it in the tissues of various organs, and filicic acid along with some of its split products appears in the urine. With moderate doses mild poisoning is very common, and large doses are attended with considerable danger. When poisoning occurs the patient experiences severe abdominal cramps, catarrhal and diarrheal conditions of the intestine, headache, dizziness, shortness of breath, yellow vision, and sometimes amblyopia and even temporary blindness. In the severest cases the person becomes delirious, is attacked with severe muscle-cramps which may develop into tonic spasms, and even death may ensue. In the severe cases in which recovery takes place, permanent unilateral or bilateral blindness results. Sidler-Huguenin, 1898, compiled seventy-eight cases of poisoning and twelve deaths; Nieden compiled forty-seven cases of injury to sight from male fern; nineteen cases showed double-sided, and fifteen one-sided amblyopia. According to Kalayama and Okamoto, in 32.5 per cent. of the cases of male fern poisoning there were varying degrees of visual derangement. Like thymol, then, this remedy is not absolutely safe, for only 5 gm. has caused severe poisoning in man. Various attempts have been made to eliminate the poison that is injurious to the host, retaining the substance that has a selective action for the parasite, but thus far these so-called active principles have been found unreliable.

Male fern extract had long been known as a teniacide, but Perona and Perroncito about 1881 brought it into prominence as a substance highly toxic for ankylostoma. Since then its efficiency as a vermicide has been amply demonstrated.

Fickerman treated 534 patients, the first dose curing 83.9 per cent. Laplanche found that the first dose cured 75.9 per cent. of 1,648 patients. Nagel compiled the results of about 4,000 cases, his observations extending over several years of time; mild poisoning was common. Tenholt treated about 10,202 worm patients, 74 per cent. requiring but one dose. Birgmann treated 22,000 patients with ankylostomiasis and observed only four cases of permanent blindness.

In treating hookworm disease by male fern it is not only essential to have a fresh ether extract, but it is necessary to prepare the alimentary tract for its reception. The mucosa should be free from mucin and from fatty foods. All solvents of male fern such as alcohol, fats, and oils, must be avoided, just as with thymol. Then in order to avoid unnecessary absorption after the drug has fulfilled its function of poisoning the parasite, it should be expelled as quickly as possible. Compound cathartic pills or magnesium sulphate seem to be the best cathartics. Since ether extract of male fern has a very disagreeable taste, it ought to be put up in capsules. Glutinoid capsules have been recommended, but when taken in these, larger doses seem to be necessary. The following procedure used in part by Goldman seems to be a good one:

For a vigorous adult 8 to 16 gm. of ether extract of malefern is put up in 1 gm. gelatin capsules. First day: Evening meal of meat broth or light soup; compound cathartic pill later, say about 8 p. m. Second day: 7 a. m. 1 gm. malefern every ten minutes until 4 to 8 gm. have been taken. One-half hour is then allowed to elapse and if no undesirable symptoms develop the remaining 4 to 8 gm. are taken, 1 gm. every five minutes. One to two hours later a vigorous purge is taken (calomel or salts). The feces should be washed and the worms counted; three to ten days later the feces are again examined for eggs, and if necessary the treatment repeated.

EUCALYPTUS AND CHLOROFORM

Another mixture known as "Hermann's Mixture" is of considerable interest. It is composed of 3 gm. of chloroform, 2 gm. of oil of eucalyptus, and 40 gm. of castor oil. This is divided into two doses and given at hour intervals.

Thus far I have been unable to find any cases of acute poisoning from pure oil of eucalyptus mixed with castor oil. It is known to have a local action on the skin, but otherwise little is known of its pharmacologic action. Two and one-half c.c. of oil of eucalyptus globulus in 10 c.c. of castor oil, given in a gelatin capsule to a 5 or 6 kilo. dog, causes vomiting. Judging from the contents of the vomit, the mixture caused an abundant flow of mucin, slightly tinged with blood. The same animal can take, apparently with little inconvenience, the same amount of eucalyptus oil if given at hourly intervals in doses of 1 c.c. mixed with 5 c.c. of castor oil.

It cannot, however, be said of chloroform that it is a harmless drug when taken in doses as usually recommended for expelling intestinal worms. As is well known, chloroform alone is a powerful irritant to all parts of the alimentary tract. It acts locally on the mucosa, causing lesions therein, and stimulates both the stomach and the intestine to very active movements. Being absorbed from all parts of the alimentary canal, especially the upper portion, it reaches the liver by a rather direct route and may result in acute poisoning. A 10 kilo. dog may show no outward signs of intoxication after ingesting 3 c.c. of chloroform thoroughly mixed with 10 c.c. of castor oil. Hookworms may be expelled within two and a half hours after giving the mixture. If, however, a second dose be taken three to four hours afterward, a dog, before lively and playful, soon ceases to be so, food is refused, vomiting may set in, and some hours later the animal is seized with acute mania-like symptoms and eventually dies. The postmortem findings of such animals reveal profuse lesions in the liver, the lobules, and in many places groups of them, being distinctly outlined by their yellow color, the pericardium shows a peculiar mottled appearance, and there is hemorrhage in the lungs, diaphragm, stomach and intestines.

There can be no doubt about the chloroform being responsible for these pathologic conditions, and such results place one on his guard in using chloroform internally. Its invidious action on the internal organs may not result in symptoms gross enough to be observed until considerable time has elapsed, thus tempting one to administer a second dose, the summated action of which may bring things to a crisis at once. Acute mania is reported in the case of a boy after taking for hookworms the prescribed dose of "Hermann's Mixture." The dose was probably that supposed to be taken by an adult, and should have been modified according to the age and condition of the patient, a matter to be considered at all times. Even then patients seem to rebel against a second treatment, and Colbert, Key, and Law each speak of it as dangerous and less efficient than beta-naphthol. Thus far I have found the remedy more efficient for dogs than beta-naphthol, and an excellent substitute for thymol in very refractory cases.

It is not quite clear just what part oil of eucalyptus plays in expelling ankylostoma, but until further data are at hand I am inclined to think it is simply an irritant to the parasites, causing in them rapid vermiform movements, and making them loosen their hold and change their position, in which case a vigorous purge may sweep them alive out of the intestine. The chloroform not only does this, but also anesthetizes them sufficiently to render them incapable of again taking hold of the mucosa while being expelled by the purgative action of the ricinolic acid. When quickly expelled in this way the worms are not at first very active, but placed in saline solution they soon become very active and may live twenty-four hours.

That chloroform is the most important constituent of this formula can easily be demonstrated by taking two infected dogs A and B. A is treated with 15 c.c. of castor oil plus 3 c.c. of eucalyptus globulus, in 3 doses an hour apart. After a second treatment only thirteen live worms were obtained. B is treated with 15 c.c. of castor oil and 3 c.c. of chloroform in doses one hour apart. Inside of 3½ hours after the last dose, feces were obtained containing 133 hookworms, and a few hours later 150 more were expelled, all of which were very active after being in water ten minutes. A second treatment some days later secured twenty-five hookworms; subsequent examination of the feces showed it free from eggs, and later after using the animal for a blood-pressure experiment, careful examination of the stomach and intestines showed the animal to be free from hookworm. Dog A was then treated with 15 c.c. of castor oil and 3 c.c. of chloroform, in three doses an hour apart; hookworms were obtained, and after the second treatment the feces showed no hookworm eggs.

These experiments seem to represent in general the relative action of eucalyptus and of chloroform. With some dogs a larger number of worms may be obtained after eucalyptus, but in such cases there is considerable blood in the feces, whereas chloroform is quite uniform in its action and always expels the worms more efficiently. So that one is justified in concluding that the oil of eucalyptus globulus is probably superfluous and at best simply an aid to the chloroform during the stage of irritation in causing the worms to loosen their hold on the mucosa.

CONCLUSIONS

1. *Any practical vermifuge to be effective in expelling uncinaria or ankylostoma must be an irritant of sufficient intensity to cause the parasite to loosen its hold.*

2. It should paralyze the neuromuscular apparatus to hinder the parasite from making fresh attachment.

3. Its relative toxicity for the parasite must be either much greater than that for the host or be much more readily absorbed by the former than by the latter.

As has already been pointed out, each of the above remedies is absorbed more or less from the alimentary tract, and Tenholt has even gone so far as to assume that only such drugs as are absorbed can be active in expelling ankylostoma. Since their method of taking food is by way of the mouth they must of necessity be poisoned by ingesting the tissues of the host already impregnated with the toxic substance, and if the host does not absorb sufficient thymol, beta-naphthol, male fern, etc., they remain fixed to the intestinal mucosa and are not expelled by the purgative.

My present experimental data suggest that this is at best only a part of the truth. It happens that drugs like thymol when combined with iodin or the benzole radicle are much less active vermicides than thymol itself. It is also true that thymol iodid, being much less soluble than thymol, is absorbed to a less extent by the intestinal mucosa. *A priori* this would seem to support the idea of Tenholt that thymol iodid has no action on hookworms because none of the drug is absorbed by the host. But if the worms themselves be studied in contact with solutions each of thymol and thymol iodid it is possible to explain the reaction of the worms towards the two drugs on the basis of amount of drug in actual contact with the parasite and the effect of introducing the iodin atom into the molecule, and thus lowering its toxicity. While, therefore, the drug absorbed by the host and ingested by the parasite as a part of the cell and plasma may have a toxic action on the worms, it seems that such drugs as thymol, male fern, chloroform, and beta-naphthol, act[1] by direct contact *with the worms, causing rapid vermiform movements,* and if the irritation is sufficiently great the worms *finally attempt to escape. From now on until paralysis sets in not a little of the surrounding media is ingested, since the mouth parts of the parasite are kept in constant action.* At this stage the intestinal contents of the host ought to be expelled so as to get rid of the surplus drug and the poisoned or anesthetized worms. Judging from the action on the worms *in vitro,* two to three hours seem to be about the time when the cathartic should begin its work. Although in the case of chloroform and eucalyptus the cathartic in the form of castor oil works hand in hand with the chloroform.

In conclusion it may be said that at present thymol is one of the most toxic vermicides for ankylostoma thus far proposed. It is easy to obtain, keeps well, is cheap, and is easily administered; it kills the parasites instead of merely paralyzing them. When taken under the care of a physician who is careful to gauge the dose in accordance with the physical condition of the host, it seems to be the best all-around remedy thus far studied. While dangerous in large doses, it differs from beta-naphthol, male fern, and chloroform, in that the danger is at once apparent and can be controlled by heart stimulants and by methods that help maintain a good blood-pressure until the drug has killed the parasite and the cathartic has removed the excess of thymol. Whereas, with the other remedies just mentioned the danger signals are less obvious and usually it is only after irreparable damage is done that one is aware that his patient is in danger of any after-effects.

Beta-naphthol is probably the next pure *chemical substance that ought to be tried* more *extensively on* human hookworm subjects. Persons affected with kidney lesions ought not to take it, and when used the urine should be examined to determine whether it causes albuminuria. If the maximum dosage of 2 to 4 gm., divided in two parts and given an hour apart, does not cause renal disturbances in adults, beta-naphthol has much to recommend it as a hookworm remedy.

Male fern at present has not much promise in this country because of the lack of care in collecting the rhizome and in preparing an active ethereal extract. This, however, is a condition which doubtless would soon be remedied if once considerable demand existed for an active extract.

At present there is but little reliable data on how efficient "Hermann's Mixture" is for expelling human hookworms, or what percentage of cases might show after-effects. It seems unnecessary to add such an irritating oil as eucalyptus globulus, and if chloroform is used it ought to be given with plenty of oil. It is best to divide the maximum 3 c.c. dose, for a vigorous adult, into 3 parts, 1 c.c. of chloroform to 10 c.c. of castor oil, given at hour intervals. Should vomiting occur before the chloroform is taken, stop the treatment, and if necessary change to thymol or beta-naphthol. By thus regulating the dose of chloroform, I have had excellent results with dogs, it has proven rapid in its action and thus far not followed by any evil after-effects. Should the chloroform-castor oil mixture act as favorably in human beings as it has for me in dogs, it will prove a universal worm remedy of great importance.

Finally it may be said that the best of remedies are but weak instruments of defense in stamping out this degrading disease. The weapon of offense must after all be proper disposal of fecal matter so that infection is rendered impossible. And what can be more effective in accomplishing this than the cultivation of a healthy public sentiment which will insist on its communal rights in this matter, protect the innocent, and by proper police regulation quickly punish the offender? To this end it would seem that the most effective line of attack is that led by Stiles and others who are endeavoring to educate the masses as to the importance of proper sanitation.

MY EXPERIENCE WITH HOOKWORM INFECTION IN THE DEEP GOLD MINES OF CALIFORNIA *

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The physician practicing medicine in the interior of the North American continent may have meager opportunity for the application of tropical medicine or meet few diseases foreign to the locality, but as new diseases, new industries, and a changing population take effect, then he may anticipate new enemies on which to test his skill.

I offer this paper without any anticipation of presenting anything new, but with the hope that my experience with uncinariasis, or hookworm infection, together with the few suggestions that I can make, in relation to its cure and particularly its prevention, may prove of value to the fraternity. I think that I can positively state, without fear of contradiction, that many individuals have gone down to an untimely end from hookworm infection, and we have helped to bury our mistakes by signing a death certificate for "miners' consumption" or some other disease, diagnosed symptomatically; while in many other cases, hookworm has been a contributing cause of death and has gone unrecognized, unheralded and unappreciated.

I may be radical when I say that I doubt if there are any deep mines in the United States, which have been in continual operation for a number of years, and which employ foreign laborers—miners who have worked in the mines of Cornwall, Austria, Italy or South Africa; and perhaps many other places before coming to this country—that are not more or less infected. In the mines along what is called the "mother lode," the deep gold-mining district of California, laborers of this class are employed.

These foreigners, without exception, come to the Pacific Coast from eastern ports, mostly from New York. They frequently stop *en route* at eastern mines, in Pennsylvania, Michigan and other places, and there is *no reason to believe that they do not infect these mines.*

These miners become infected by working from childhood in infected mines in the old country, and all are carriers, in the same sense as the typhoid carriers that we occasionally see. It is not only my opinion, but also that of Dr. Gunn, of San Francisco, whom I consider an authority on hookworm, that most mines in operation for a considerable length of time, employing this class of labor, where the conditions are favorable to their development, are infected with hookworm.

It might be well to quote at this time from Frohlich, Raillet, Stiles and others, that there are two distinct species of hookworm, the European and American, but I wish to say that if the European are not American, they should be, for they have been in this country long enough to be naturalized. These authorities state that the effects of the two species are not distinguishable and the treatment is the same.

Hookworm infection, if suspected, is not difficult to diagnose, but by the neophyte it may be overlooked. One may stand on the streets of any mining town along the "mother lode," when the miners come from and go to work, and with little chance of mistake point out the men infected with hookworm. Their skin has an appearance as peculiar to their trouble and as characteristic as is the cachexia of cancer.

When a patient complains of symptoms referable to gastro-enteritis, appendicitis, functional heart trouble, etc., the stools should be examined for the ova of hookworm. After an ordinary laxative the worms themselves are not found in the stool, only the eggs. Having once seen the ova, which are clearly pictured by recent books on the subject, there is little chance for mistake. Many cases of apparent heart trouble, gastro-enteritis, appendicitis, anemia, malaria, etc., yield like magic to hookworm treatment. I recall one case in which a miner, supposed to be dying of "miners' consumption," who was too weak to cross the street, was found to be infected with hookworm and responded nicely to the treatment; he is now back at work in the mine, doing hard manual labor, and is well and hearty.

It is not necessary to give a laxative to secure a sample of the stool. The patient can pick up a small amount of an ordinary stool on a toothpick and place it in a clean vial. A thin film of this spread on a slide, and examined under a 1/8 inch objective, without cover glass, will disclose the ova if they are present.

Eosinophilia is diagnostic evidence of hookworm infection; however, we must keep in mind the fact that eosinophilia is found in many other conditions which may simulate hookworm, viz., bronchial asthma, emphysema, phthisis with cavities, diseases of the nervous system. chlorosis, some diseases of the skin, and lithemia. The absolute diagnosis of uncinariasis consists in finding the ova under the microscope and later the worms after having administered the proper medicament.

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

Treatment is simple and effective; the usual prescription consists of thymol in 5-grain doses every two hours until four doses are taken, to be preceded and followed by a saline laxative, a light supper, and no breakfast, before taking thymol; fats and alcoholic drinks are interdicted.

The other treatment most in use is the following:

℞	Gm. or c.c.		
Spiritus chloroformi	2|50		m xl
Olei eucalypti..................	1|25	or	m xx
Olei ricini...................q.s.	60|		℥ii

Sig.: Take one-half and repeat in one hour.

This latter treatment has an advantage in that it does not require the same precautions in diet and beverage, but I do not believe it to be so effective; besides it has its untoward effects, fainting, nausea. Some patients take the mixture with pleasure, while others become cyanosed and have to be placed in a recumbent position and given heart stimulants, due no doubt to the weakened condition and the effects of the chloroform.

Either method of treatment must be repeated at intervals of from three days to a week until all ova disappear from the feces. Any method of treatment should be followed by a good tonic, usually some iron preparation.

Now comes the most important part, that of prophylaxis: Having once cured the patient, how can we prevent reinfection? One can readily appreciate the folly of returning the cured person again to the same opportunity for reinfection without giving instruction and building barriers against such reinfection. Beyond question, the soil of these mines is infected. This fact has been absolutely proved by Dr. Gunn. The ova and larvæ may be seen in specimens of soil taken from the mines, and the mode of human infection is by skin contact with infected soil. Here I wish to say that the ground-itch, so common in the southern states and indicative of hookworm infection, is noticeable by its absence in the deep mines, although we do see an exceptional case.

The natural question that would arise in the mind of the novice, or those not acquainted with the extent of deep mines would be: Why not disinfect these mines? When it is remembered that one mine alone, near Jackson, is 3,600 feet deep (the deepest perpendicular shaft of any gold mine in the world), that its drifts, stopes, crosscuts, and raises cover acres, one can readily see the futility of such an attempt without a great disruption of the social and economic conditions of the locality. The question resolves itself into one of guarding the employees against reinfection and permitting the ova and larvæ in the infected soil to die a natural death.

In accord with this belief I would advise the placing of portable commodes at convenient places in the mines, these commodes to contain an antiseptic, and to be emptied at frequent intervals, and the miners to be instructed to use them exclusively instead of the sumps or drifts, as has been the habit, suspension or discharge from work to be the penalty for violation of this law. The custom of miners bathing only to the waist-line on returning from work must be abolished. A pool or cement tank should be provided and all underground employees be made to take a complete bath. I would also have provided at the changing-room at the mines as many disinfecting rooms as there are shifts, and that the miners be instructed to place their working clothes therein after returning from work, these clothes to be subjected to a thorough disinfecting by means of sulphur, formaldehyd or other disinfectants. All these mines are infested with hordes of rats, that are protected as scavengers, and it has occurred to me that the rodents may be a means of spreading the infection from one level to another. In line with this thought, I have secured rats from all the neighboring mines and have made careful examinations, but so far the results have been negative. At this time, however, I would not care to say that there is not a possibility that they might be carriers under certain circumstances; further investigation will be required.

In conclusion, I must say that to accomplish good results along the line of stamping out hookworm infection in the deep mines, regulations must be passed by state boards of health, empowering county and city health officers to see that the proper regulations are observed in the full sense of the word, otherwise Rockefeller's millions and our good efforts will be wasted on the desert air, and the hookworm will be left as a heritage and burden for those who follow.

HOOKWORM DISEASE IN CALIFORNIA, ITS IMPORTATION, DISSEMINATION AND PREVENTION *

HERBERT GUNN, M.D.
SAN FRANCISCO

Up to six years ago hookworm disease was unheard of in this state except for a few isolated imported cases. In 1905 I called attention to the fact that a large number of Porto Ricans were taking up residence in California and that over 50 per cent. of them were hookworm carriers.[1] During the following four or five years attention was frequently drawn to the subject, but no measures were instituted to control the importation of the disease until 1910, when Passed Assistant Surgeon Glover of the U. S. Public Health and Marine-Hospital Service, stationed at the Immigration Station at Angel Island, San Francisco, began the examination of immigrants for hookworm disease.

On account of the very efficient manner in which this work is being continued, it is safe to say that practically no hookworm carriers, coming under the jurisdiction of the immigration department, are now permitted to enter this port. So far as is known this is the only immigration station where such measures are taken, so that Chinese, Japanese, Hindus, Central Americans, etc., may readily enter United States territory without a question as to their being hookworm carriers.

In the latter part of 1910, under the auspices of the California State Board of Health, I investigated the conditions existing in certain gold mines in this state,[2] and found that the disease was endemic and the infection extensive, being as high as 75 per cent. in some of the mines.

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* Read in the Section on Pharmacology and Therapeutics of the Americ [illegible] at the Sixty-Second Annual Session, held a [illegible]

[1] [illegible] d., April and August, 1905.

[2] Gunn, H.: Hookworm Disease in Mines of California, THE JOURNAL A. M. A., Jan. 28, 1911, p. 239.

During the last year or two several cases of hookworm disease, which unquestionably originated in the Hawaiian Islands, have been observed in San Francisco, which fact is not surprising as the plantations there must have been badly infected before now by the thousands of Porto Ricans who have been employed there for years, and by the Chinese and Japanese. Most of the Hawaiian plantation laborers, after a longer or shorter sojourn in the islands, come to the United States by way of San Francisco, where many remain temporarily, to go into the country districts throughout the state when labor is required, or to the fisheries in Alaska during the fishing season. At the present time there are thousands of these people in this state, or temporarily in the Alaska fisheries who will return in the fall of the year. In San Francisco there is a big colony of them always, but especially in the winter months when there is no employment in the country districts and when the Alaska fishermen have rejoined their families.

With the assistance of the Associated Charities of San Francisco, the San Francisco Board of Health, through a recently established Bureau of Tropical Medicine, of which I have charge, has been investigating the subject of the importation of hookworm disease and, in so far as the infection from the Hawaiian Islands is concerned, has reached definite conclusions. Of a total of 355 examinations of individuals coming to California from various tropical regions, 171 coming from Hawaii were examined especially with regard to hookworm infection, with the following result:

Natives of Spain, total examined.. ..	135	
Blood examination for eosinophilia. ..	135	
Eosin count 5 per cent. and higher....	68	or 50 per cent. plus
Stool examinations..............	60	
Ova of hookworm present....	9	
Percentage infected with hookworm...	15	

Twenty-six of the sixty, or over 40 per cent., were found to harbor parasites of some sort, among which may be mentioned *Ascaris lumbricoides, Oxyuris vermicularis, Trichocephalus dispar, Tænia nana,* and *Balantidium coli.*

Porto Ricans examined..............	36	
Blood examination for eosin.........	13	
Eosin count 5 per cent. and higher....	11	or 84 per cent. plus

These men were en route to Alaska and no stools could be obtained.

In the following no blood examinations have yet been made:

Porto Ricans, stool examinations.....	23
Hookworm ova present..............	13
Percentage infected with hookworm..	56 plus

Seventeen of the twenty-three, or over 73 per cent., showed parasites of some sort, among which were *Ascaris lumbricoides, Oxyuris vermicularis, Trichocephalus dispar,* one case of *Schistosomum mansonii* or lateral spined bilharzia, *Strongyloides intestinalis* and *Balantidium coli.*

In these examinations specimens were obtained from entire families, and in no case was special selection made on account of apparent sickness, so that the percentage of infection may be taken as a fair average. Many of those examined showed marked evidence of the disease, some being quite incapacitated for work and depending on the Associated Charities for their food-supplies. Many of the children were undeveloped, some in height and weight being 30 to 40 per cent. below the standard for their ages.

It is apparent that these unfortunate people, in addition to being a menace to the rural districts in which they reside, must be a source of considerable expense to the counties on account of sickness and its resultant poverty.

The results of the investigations at this time among the Porto Ricans correspond very closely with those I obtained six years ago when an examination of over 100 Porto Ricans in San Francisco showed an infection of more than 50 per cent.

At the present time the San Francisco Board of Health is investigating the subject in regard to other nationalities, but though cases have been encountered, a sufficient number of examinations on which to base conclusions has not yet been made.

Prevention of hookworm disease in California is a task of considerable magnitude, and can be accomplished only by the State Board of Health with the cooperation of the federal health authorities. On account of our geographic situation and our intimate intercourse with many tropical countries, it will be necessary to have permanently the facilities necessary to combat the disease.

It will be necessary in the first place to prevent, so far as possible, the further importation of the disease, and in the second place to eradicate the disease now existing in the state.

To prevent further cases entering will necessitate the examination of certain classes known to be more or less infected (e. g., the laborers arriving at present from the Hawaiian Islands and a large proportion of the laborers now in the Alaska fisheries when they return), and the compulsory treatment of all found infected. There should be compulsory treatment of such persons as are found infected at the immigration station, who for legal reasons cannot be detained there for treatment.

It would probably be necessary to have hospital facilities such as the federal government maintains at the Immigration Station on Angel Island, where work somewhat similar to that outlined above is carried out.

In dealing with the disease as already existing in this state, the work of greatest importance would be in the mines, and here the requirements are very clearly indicated:

1. An examination should be made of every mine in the state in order to determine the extent of the infection.
2. Mine officials should be educated as to the importance of hookworm disease and mine sanitation.
3. Regulations should be promulgated and enforced regarding the examination of employees, the treatment of infected persons and mine sanitation.

The necessity of state regulation is clearly demonstrated by the fact that practically no attention has been given the subject by mine officials since the investigations of the State Board of Health eight months ago brought it to their notice.

In only one mine has any attempt been made systematically to examine the men and treat those found infected, and here only twenty-nine have been examined, showing over 75 per cent. positive.

It is quite impossible for the manager of one mine to carry out preventive measures, no matter how anxious he may be to do so, when adjoining mines are doing nothing, because the miners, many of them very ignorant, become suspicious and avoid the mine in which the requirements are so strict and unusual.

The management of individuals outside of mines and scattered about the state presents many difficulties, but the situation can best be controlled by proper sanitary measures. In some parts of the state, however, there are aggregations of certain people known to be more or less heavily infected, e. g., Hindus, Chinese, Japanese, Mexicans, etc., and these should be especially considered.

To summarize:

1. Hookworm disease has been extensively imported into California in the past.
2. It is still being largely imported at the present time.
3. The deep gold-mines of the state are as badly infected as many of the European mines.
4. In all probability some of the rural districts, if examined, could be demonstrated to be infected.
5. The only preventive measures employed are being taken by the federal authorities, and these are totally inadequate, as they are in operation in only one immigration station, and further, do not cover a large class of people who bring in the infection.

240 Stockton Street.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. SCHULTZ, ENDICOTT AND GUNN

DR. THEODORE G. DAVIS, Los Angeles, Cal.: I should like to ask Dr. Gunn whether he makes counts of the red blood-cells? The reason I ask the question is that very recently a cattleman, who has lived out of doors all his life overseeing a cattle ranch in San Obispo County, California, came to me for treatment. He had weighed 180 pounds; when he came to me he weighed 120. He had gradually become so debilitated that he was not able to pursue his work, which was to oversee his ranch. I found that he had hookworm and while I made no count of the red blood-cells there was a marked degeneration of the stroma of the cells and the hemoglobin gradually dropped after I first saw him from 80 per cent. down to 65 per cent. But the point that I wish to bring out is a practical point in the estimation or rather the recovery of the hematoidin from the urine of these patients, and also the effect on the liver of this disease, and recovery of the bile acids from the urine. It is, so far as I know, original. I have been working on it for more than three years. This may be applied to cancer and other diseases that produce substances causing degeneration of the red cell. Three ounces of the urine are acidified with hydrochloric acid and heated slowly over a low flame until bubbles begin to rise, or practically to the boiling point. It is then set aside to cool and is covered with ether.

It should not be shaken, but twisted upside down a few times. The hematoidin will be recovered from the urine in the form of hematin and the bile acids. By removing the ether carefully with a pipette, on a porcelain dish the hematin will be deposited on the upper portion and the bile acids will be on the bottom of the dish, very plain and yellow. If a dilute solution of sodium hydroxid is added to the bile acids and a little water the biliary compounds are washed out and the hematin left on the dish. If one wishes to test the substance further for bile I would suggest to try Torquay's test. Torquay's test consists of 1 part of methyl violet in 1,000 of water. If one takes two test-tubes equally filled with Torquay's test and drops in one tube a few drops of the solution of the bile acids or salt it will cause a disappearance of the blue tint of the methyl violet solution, only the red remaining. I have used this method for over three years in the various disease conditions causing destruction of hemoglobin or the red cells—in leukemia, both lymphatic and splenic, cancer of rectum and stomach, in hookworm disease and the various cardiac and intestinal diseases affecting the liver. In cases of babesia from Yuma, Arizona and Mexico, as well as estivo-malarial fever and other infections, I have found this test very suggestive as well as confirmatory.

DR. JOHN W. COLBERT, Albuquerque, N. M.: It has been my privilege to make an extensive investigation of hookworm conditions in Arizona, New Mexico, Mexico and Porto Rico during the past eight years. In the past eight years I have treated over 10,000 patients, having administered more than 50,000 treatments, and my conclusion is this: Thymol is the most powerful antihelminthic, and is the best remedy in the treatment of hospital cases. Its depressant effect is too great, however, to permit the drug to be entrusted in the hands of clinic or home patients. For these patients beta-naphtol should be given. True, it is not so powerful as the thymol, but its depressant effect is not nearly so marked. There is practically no danger in using the beta-naphtol. About seven years ago I tried the eucalyptus oil and castor oil, as suggested by Dr. Phillips, on ten hospital patients, and all suffered marked dizziness, considerable gastric irritation, and in a few cases considerable collapse, and all refused the second dose. I was therefore unable to follow up the treatment. Of the ten patients there was an average of 424 worms passed from the one dose. With beta-naphtol and thymol my average in 5,000 patients in Porto Rico was a little over 1,000 expelled from one dose.

Dr. Gunn only touched on a very important source of importation here in California, and also in Arizona and New Mexico. I refer to the Mexicans working along our railroads—our track laborers. Last August I presented this subject before the Pacific Coast Railway Surgeons' Association in San Francisco. At that time I reported eighteen cases which had come under my observation in two years' time. Within the past year I have seen almost fifty cases among these track laborers, showing that the condition is on the increase. I am fortunately situated in being near the distribution point for these Mexicans, and have examined many of them before they were sent into Arizona and California, and I do not believe that I overestimate conditions in stating that between 15 and 20 per cent. of these men harbor the hookworm. These investigations were made before the Mexican revolution—the recent insurrection—and we must remember that during this insurrection many of these same laborers for many months had been living in open, insanitary camps and going barefooted, and to-day I believe that this percentage is considerably increased. A few days ago I saw a news item, under date of June 18, stating that railway communication had been resumed between El Paso, Texas, and Chihuahua, Mex., and that the first train entering El Paso had on board 1,100 Mexican laborers for contract work in California and Arizona, all of them coming from points south of the city of Chihuahua. From personal investigations I have found that twelve of the states south of Chihuahua have hookworm disease. I am sure that you will find this condition spreading very rapidly. I want to call your attention to the fact that the warm, rainy season is the time *par excellence* for the hatching of the uncinaria ovum.

I have brought this condition to the attention of the officials of the Santa Fe Railroad, and they have already introduced proper sanitary measures to prevent a spread of the infection. We promptly deport the patients as soon as the cases are diagnosed. Within the past two weeks bulletins have been sent to all officials of the track department giving instructions as to adequate sanitation among the men, compelling the digging of trench latrines along the line of work for the men to use during the hours of work. I think this is a matter to be brought to the attention of the officials of other railroads. I wish to state furthermore that I have brought this to the attention of the Public Health and Marine-Hospital Service and this service has instructed all of their surgeons stationed along the Mexican border to be on the lookout for this disease, and they will cheerfully and readily aid any physician in deporting any one found with the disease.

DR. HARRY R. OLLIVER, San Francisco: It is interesting to know that hookworm is an ancient disease, quite accurate description of it being given in the Ebers Papyrus. In modern times it first occurred in Italy in the workers on the St. Gothard tunnel; then traveled down the Rhine to the mines of Westphalia; thence to Cornwall; then to America, etc. It is an interesting question as to the origin of the New World or American variety, whether indigenous to the United States or brought here by Africans. That the latter is probably true is emphasized by the finding of this variety in the interior of Africa. It is also traceable through the West Indies, Panama and the Philippine Islands. As pointed out by Dr. Gunn, laborers returning from the Hawaiian Islands are almost sure to bring it here, and the conditions here are most suitable for its propagation. It is especially true of the middle and southern parts of the state, where the irrigation projects are becoming so extensive and the soil, moisture and temperature are ideal for the propagation of the parasite. These laborers naturally take to agricultural pursuits, which predominate in these districts. This, in connection with already infected mines, gives rise to a decided danger of the infection of a large part of California. I believe that basing estimates on 50 per cent. of Porto Ricans being infected, we have in California, over 20,000 cases of hookworm disease.

DR. REID HUNT, Washington, D. C.: Do you get any encouraging results in disinfecting the excreta? I have done no work myself, but Dr. Stiles seems to have about given up in despair the possibility of finding anything that will destroy ova in excreta. Solutions of phenol (carbolic acid) for weeks had little effect. He found that if feces were collected in a septic tank most of the ova disappeared in two or three months.

DR. E. E. ENDICOTT, Jackson, Cal.: It has never been my experience to see a live worm. They were all dead when they got here. I do not know whether it has been thoroughly demonstrated as to how long the ova would live. They can stand a good deal of heat and a good deal of cold and possibly Dr. Gunn would be better informed on that line than myself.

DR. HERBERT GUNN, San Francisco: On account of the number of patients examined it was impossible to make relative counts. All that was done was a rapid count for eosinophilia, and that was apparent after thirty cells were counted. Ordinarily 100 cells were counted. Thymol I have used in large doses in a patient with marked nephritis of chronic character without any ill effect whatever. I have used the eucalyptus and chloroform mixture quite extensively and never had any ill effects from it. Thymol I have used in clinic work in San Francisco, depending on the patients to carry out directions as to preparation and after treatment. I had one patient who was pretty badly poisoned. I saw another case of poisoning in a hospital and only a moderate dose of thymol had been taken. I think, however, that it has been shown that thymol can be given without much danger when reasonable precautions are taken. At the present time in clinic work and when patients are not to be under observation during treatment. I use eucalyptus and chloroform exclusively. The nausea which frequently results when these drugs are given in castor oil may be avoided if they are administered in capsules. Fifteen minims of eucalyptol and 45 minims of chloroform are put into eight No. 1 capsules. These are sealed with a little water and enclosed in No. 0 capsules, also sealed, and then covered slightly with salol. These are administered at intervals for an hour. I have used this without producing the slightest trouble or irritation. The treatment is, of course, preceded and followed by a laxative. I think Dr. Endicott is perfectly right in regard to the mortality in the mines. I know when I was up there we saw many persons on the streets who presented evidence of grave anemia. In San Francisco I have had two deaths. One was in a Spanish woman who came from Honolulu and who had a hemoglobin of 30 or 40 and general anasarca. Another case I had was in a young Porto Rican boy who had also been in Honolulu and who died of inanition, having been sick a long time. I recently had referred to me in San Francisco a young student who had worked in the mines in Jackson for two months during a vacation. His temperature was 103 F., hemoglobin about 60. The peculiar muddy color was pronounced and he was very sick. He had been unable to keep up with his work at the university for months. The temperature in hookworm disease is quite frequently irregular. I have seen cases in which the temperature ran along so that it was suspected that the patients had malaria or typhoid. Frequently there is a slight fever. One of the cases I saw in the mines had been diagnosed as appendicitis; the symptoms disappeared immediately after treatment. A second case in which this diagnosis was made was seen in San Francisco. The point Dr. Colbert brings out regarding the Mexicans is very important. I had no idea that there were so many coming in and it shows that there should be some examination made on the Mexican border. Such inspection to be of any value would necessitate the routine examination of the stools or blood, as many of the hookworm carriers present no outward evidence of the disease. Regarding the life of the parasite, ova of the hookworm have remained alive for over a year in the laboratory, and the probabilities are that, under favorable conditions, they would live as long in the mines. As to the life of the parasite in the body, I have had cases in which it was alive for seven or eight years and I believe in estimating whether a case has originated here or outside one should give nine or ten years as being the limit of time. In regard to the material used for destroying the ova, it is claimed that common salt is one of the most efficient for preventing the growth of the ova in the soil.

BRAIN SURGERY *

CASSIUS C. ROGERS, A.M., M.D.
CHICAGO

I wish to consider briefly a series of thirty-five cases of unfavorable intracranial surgical lesions in which I have operated, comparing the results obtained in the cases of patients operated on early with the results obtained in the cases of those operated on late.

The results have not been flattering, but when we consider the duration and seriousness of the malady, the results are perhaps as satisfactory as those obtained in other surgical conditions that have been as long neglected and injudiciously treated.

Attempts are at once made to arrest hemorrhage, evacuate and drain abscesses, remove or drain cysts and remove tumors when located in accessible locations in all cavities except the cranial. Why should this be the exception when so often the hemorrhage, abscess, cyst or tumor can be so easily, correctly and accurately diagnosed and located, especially when it is located in focal areas, and frequently when no focal symptoms are present, the lesions being located in a silent area?

Time should be taken and careful and systematic examination should be made; under no consideration except in emergencies should the skull be opened until all means have been exhausted in the attempt to diagnose and locate the lesions. Skiagraphs of anterior, posterior and lateral views should be taken. The Wassermann and tuberculin tests should always be made as well as a complete blood test and uranalysis. And above all, if the patient is mentally impaired, he should be under close observation until all peculiarities are noted and their meaning fully interpreted. When at last operation is decided on, the site should be located and a large skin and osseous flap reflected, making possible the examination of a large area of the brain.

HEMORRHAGE

Hemorrhage due to trauma or to other causes may be classified under four heads: Intraventricular; intracerebral as in Case 4, Table 1, Series 1; subdural as in Case 8, Table 1, Series 1; supradural as in Case 11, Table 1, Series 1. It is the last two varieties that I wish to consider surgically.

In the subdural, the blood is at once distributed over a large area, being carried by the circulating cerebral spinal fluid. A general irritation is soon produced, perhaps at first it is mild, but later the patient may develop marked and diffuse muscular twitching and violent clonic and tonic movements with symptoms of intracranial pressure. The withdrawal of cerebro-

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

spinal fluid by lumbar puncture demonstrates the presence of blood. If the hemorrhage is severe, the symptoms are exaggerated, intracranial pressure is soon produced, and unconsciousness may be the result. In many of these cases the patients are relieved almost instantly and often permanently, by simply relieving intracranial pressure by decompression and by the opening of the dura.

Supradural hemorrhage is more localized and usually at the site of injury. If slight, there may be only local headache; if extensive there may be all the symptoms of intracranial pressure, headache, vomiting, vertigo, slow pulse, slow respirations and at last unconsciousness. In the former condition, if the symptoms are not relieved in a few days, the clot should be evacuated through a large opening in the skull; in the latter condition this should always be done:

First, to prevent infection of the clot, thus preventing the formation of an abscess, and second, to prevent organization and calcification of the clot, thus preventing irritation and adhesions which later produce epilepsy.

Intracranial pressure sufficient to cause headache, cerebral or projectile vomiting (vomiting without nausea, irrespective of the ingestion of food) and choked disk that is not improved in three weeks and relieved after six weeks of internal medication should be considered a surgical case and relieved by removing the cause, if located in a site amenable to surgery, or by subtemporal decompression (Cushing's method) if the lesion is in an unfavorable surgical location.

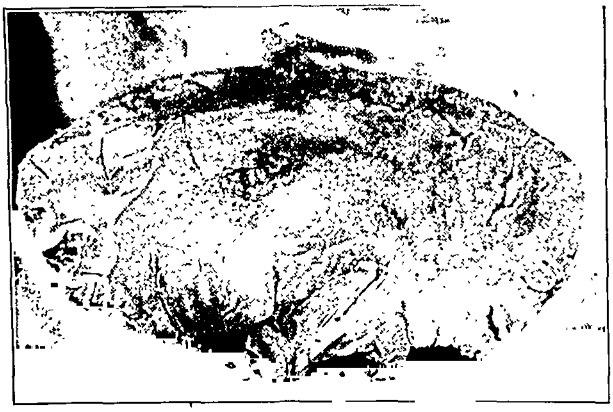

Fig. 1.—Hemorrhagic cysts within the brain.

Many conditions such as hemorrhage, edema, avascular gumma, etc., which stubbornly resisted such treatment before the intracranial pressure was relieved will readily yield to internal medicine after decompression.

Following injuries to the head, if the patient is rendered unconscious, regains consciousness in a short time and then again gradually becomes unconscious, and if the respirations are slow, deep and labored, the pulse slow, full and bounding, or weak, the temperature normal or subnormal, I make it a rule to advise operative interference at once, to relieve pressure produced by either hemorrhage or edema and thus to prevent complications and an unfavorable termination, using for the anesthesia, chloroform, and recently, gas (Crile method). Do not procrastinate in these cases; do as little as possible as quickly and thoroughly as possible, to assist the patient past the critical period; later perform a more thorough and complete operation if necessary.

ABSCESSES

Supradural abscesses originating from acute or chronic suppurative otitis media should be freely drained by removing a plate of skull just above the mastoid and drainage established. Draining through the roof of the mastoid will not give adequate drainage.

Subdural or intracerebral abscesses should be drained by removing a large plate of skull from over the region of the abscess. The dura should be freely opened, and if subdural, the abscess should be drained. If the abscess is intracerebral, the dura should be opened and evacuation of the abscess delayed until adhesions form between the dura and brain, thus preventing diffuse meningitis.

Subdural, supradural and intracerebral abscesses may persist for years and may date back to some slight injury produced many years before and long since forgotten; in some cases, the patients afflicted with them have spent many years in our state institutions for the insane for the want of a correct diagnosis and proper treatment.

CYSTS

Cysts result from many causes but frequently from irritation produced by small hemorrhages. They are frequently subarachnoid as described by Krause.[1] The fluid from the cyst will coagulate, while spinal fluid will not. Cysts may be the result of liquefied glioma.

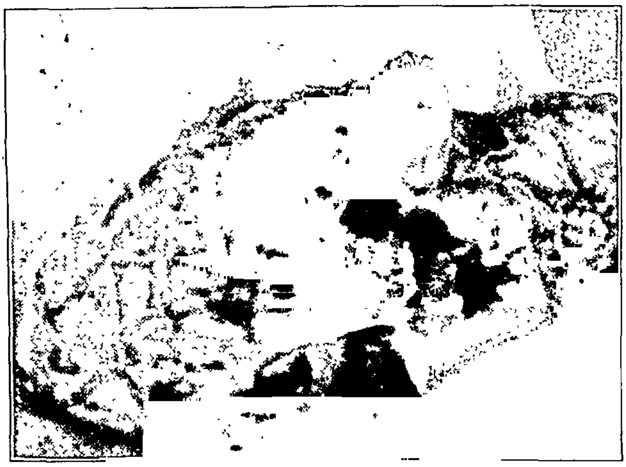

Fig. 2.—Large temporosphenoidal abscess. Series 1, Table 1, Case 8.

TUMORS

All varieties of tumors have been found in the brain, malignant and benign. Under all circumstances, the symptoms of headache, dizziness, vertigo, vomiting, impairment of vision, due to intracranial pressure can and should be relieved early by decompression. Constant, persistent, localized headache should demand our most earnest attention and all efforts made to determine the cause, as it is often in the location of the intracranial lesion and can be relieved by relieving tension.

SUMMARY

1. In cases of suspected tumor the patients should not be treated over long periods of time by antisyphilitic remedies.

2. A Wassermann test should always be made and if positive and the gumma is avascular, the tumor will not

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[1] Krause: Surgery of the Brain, p. 53.

SERIES 1.—TABLE 1.—ABSCESS OF BRAIN *

In each case family history was negative; vomiting and headache were present. All patients were operated on (trephined and drained abscess), the anesthetic in each case being chloroform.

Case Number	Sex	Age	Nationality	Injury	Duration of Illness	Mental State	Epilepsy	Pulse	Respiration	Temperature	Wassermann †	Operative Findings	Location	Etiology ‡	Result	Died After Operation	Cause	Sent by	Hospital	Entered Hospital
1	M.	20	Italian...	No.	2 years.	Unconscious..	—	60	20	101 104	0	Abscess.....	T. sphen. lobe	C. S. O. M..	Died .	48 hrs.	Mening.	Dr. Good.....	E. D.	1/16/11
2	M.	23	German..	No.	9 days..	Cloudy	—	72	18	99 102	0	Abscess.....	T. sphen. lobe	A. S. O. M..	Cured	....	....	Dr. Good.....	E. D.	2/17/11
3	M.	22	German..	No.	4 years.	Normal......	+	75	20	97.5 99.6	0	Extradural abscess	Temp. sphen. reg.	C. S. O. M....	Cured	....	....	Self.........	F. W.	....
4	M.	51	American	?	4½ yrs.	Cloudy	+	Slow	Slow	Nor.	—	Abscess.....	T. sphen. lobe	?	Died .	5 days	Mening.	Dr. Schwartz.	F. W.	6/21/10
5	M.	4	American	No.	3 mos..	Unconscious..	—	..	...	.....	—	Abscess.....	T. sphen. lobe	A. S. O. M....	Died .	3 days	Mening.	Dr. Good.....	F. W.	12/13/09
6	M.	9	French..	No.	6 weeks.	Unconscious..	—	Slow	Slow	100 103	0	Abscess.....	Extr. dur.: T. sphen. reg.	A. S. O. M....	Cured	....	....	Dr. Stoll.....	F. W.	12/11/10
7	M	9	American	No.	2 mos..	Semiconscious	—	Slow	Slow	103	0	Abscess.....	Extr. dur.; T. sphen. reg.	A. S. O. M....	Cured	....	....	Dr. Brode....	R. B.	2/20/10
8	M.	59	German..	Yes	21 days..	Unconscious..	—	Slow	Slow	.....	0	Intradural abscess	T. sphen. lobe	Fract. of skull.	Died .	47 days	Sepsis..	Dr. Stoll.....	F. W.	12/11/10
9	F.	6	American	Yes	6 mos..	Unconscious..	—	Slow	Slow	Nor.	0	Abscess.....	Occ. lobe.....	Fract. of skull.	Died .	12 days	Mening.	Dr. Wolfe....	F. W.	10/28/06
10	F.	14	American	?	2 years.	Normal......	—	..	..	.....	—	Nec. of skull; T. B. abscess	Occ.reg......	Necros. of skull	Cured	....	....	Self.........	F. W.	12/28/07
11	F.	47	German..	Yes	16 years.	Irritable.....	+	104	20	101	—	T. B. abscess	Occ.reg......	Necros. of skull	Cured	....	....	Dr. Weissenb.	F. W.	3/../08

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* Number of cases, 11; intradural abscess, 8; patients died, 4; extradural abscess, 3; patients died, 0; suppurative otitis media, 7; patients died, 3; fractures of skull, 4; patients died, 1.

† Zero in this and the following table indicates that no Wassermann test was made.

‡ In this column C. S. O. M. means chronic suppurative otitis media; A. S. O. M. means acute suppurative otitis media.

SERIES 2.—TABLE 2.—TUMORS AND CYSTS OF BRAIN *

In each case headache and vomiting were present; pulse slow, respiration slow, temperature normal. All patients were operated on, the anesthetic in all cases being chloroform.

Case Number	Sex	Age	Nationality	Duration of Illness	Mental State	Epilepsy	Wassermann	Paralysis	Eyes	Operation	Babinski †	Result	Died After Operation	Cause	Hospital	Sent by	Diagnosis	Autopsy	Entered Hospital
1	M.	14	German..	6 mos..	Normal....	+	—	No	Choked disk	Decompres.	++	Died ...	6 mos.	B. tumor	F. W.	Dr. Seufert..	Tumor cerebell. r. mot. area.	Confirm. diagnos.	4/6/10
2	F.	35	Jewish .	14 years.	Impairment.	+	—	Left arm and leg.	Impaired vis	Decompres.	+	No imp..	....	....	F. W.	Dr. Heym...	Tumor t. sp. reg.	....	4/10/10
3	F.	18	Amer...	....	Unconscious	—	—	....	Almost blind	Decompres.	+	Died ...	....	B. tumor	F. W.	Dr. Seufert..	Tumor base of brain.	Refused...	12/18/09
4	F.	32	Amer...	1½ years.	Unconscious	—	+	Left side	Blind	Decompres. R. temp....	+	Died ...	16 days	Mening.	F. W.	Dr. Brode...	Tumor r. mot. area; gumma.	Confirm. diagnosis.	4/13/09
5	M.	51	German..	3 mos..	Semicon....	—	0	Right side	Impaired vis	Decompres. L. temp....	+	Cured ..	......	....	S....	Dr. Campbell	Gumma l. mot. area.	....	5/4/11
6	F.	16	Amer...	3 years.	Normal.....	+	+	No	Impaired vi	Decompres. L. temp. reg.	++	Improved	......	....	F. W.	Dr. Sheets..	Gumma cerebell.	....	7/22/10
7	F.	44	Amer...	2½ years.	Normal.....	—	+	Right side partial.	Choked disk	L. pariet. base flap drain	++	Cured ..	......	....	F. W.	Self........	Cysts in mot. area.	....	1/22/08
8	M.	26	Amer...	6 mos..	Irres.......	+	+	Right arm	Poor vision	Occipital decompres....	++	Improved	......	....	F. W.	Dr. Orndorff.	Cerebell. cyst; gumma.	....	2/22/10
9	F.	2½	Amer...	2 years.	Normal.....	+	+	Limbs spastic ...	Vision good	L. parietal decompres. subarach...........	++	Improved	......	....	M. T.	Self........	Subarach. cysts.	....	12/22/10
10	M.	53	Amer...	2 years.	Irres.......	+	—	Left side	Poor vision	Raised depres. fracture.	++	Died ...	4 days	Nephrit. pneum	F. W.	Self........	Cyst from old blood-clot.	Confirm. diagnos.	11/10/10
11	F.	8	Amer...	4 mos..	Unconscious	+	—	Right side	Almost blind	Decompres. motor area..	++	Died ...	4 days	Cerebr. irritat	F. W.	Self........	Large cyst l. mot. area.	....	7/9/10

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* Number of cases, 11; tumors, 6; patients died, 3; not improved, 1; cured, 1; improved, 1; cysts, 5; patients died, 2; not improved, 0; cured, 1; improved, 2.

† Babinski + one foot, ++ both feet.

yield to antisyphilitic treatment until pressure is relieved.[2]

3. The patient should have the benefit of early operative interference.

4. Intracranial hemorrhage should be evacuated in all cases in which the patient lives long enough to secure a skilled surgeon to relieve pressure, to prevent infection and abscess formation, and to prevent adhesions which will produce epilepsy in future years.

5. Intracranial pressure should be relieved by decompression to relieve and prevent constant and localized headaches, cerebral vomiting and impairment of vision.

6. Antisyphilitic remedies should not be given over long periods of time unless marked improvement is obtained within from three to six weeks.

7. Tuberculosis test should be made in all suspicious cases, in which the presence of tuberculosis is not positively known.

8. Epilepsy seldom develops before eighteen months after injury, and may develop many years later.

REPORTS OF CASES

SERIES 1 (Table 1).—CASE 4.—Mr. W., aged 51, American, clerk, four years previous to entering the Willard Hospital Jan. 6, 1909, had a stroke of paralysis involving the right side. This slowly improved until the patient was able to be up and around and at his work.

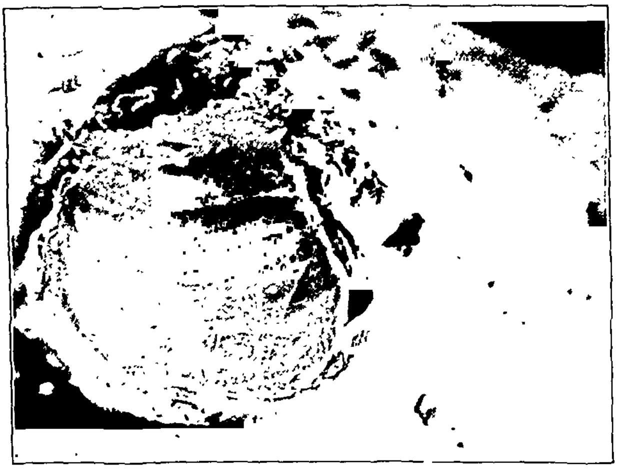

Fig. 3.—Chronic syphilitic meningitis. Series 2, Table 2, Case 4.

A year later he commenced to have temporal headaches on the left side, and for three years sought medical aid without relief. Jan. 7, 1909, I opened the skull in the left temporal region, found a large abscess in the temporal sphenoid lobe and drained it (Figure 1). Patient died on the fifth day from acute meningitis. Autopsy showed cysts of the brain and hemorrhagic areas.

SERIES 1 (Table 1).—CASE 8.—Mr. K., aged 59, German, contractor. Entered the Willard Hospital Dec. 12, 1910. Twenty-one days before entering the hospital while on his way to work he had been struck by a street car and rendered unconscious. He was taken to a hospital and treated. On the twenty-first day there was no sign of return of consciousness. He became very restless and noisy. His pulse was slow, his temperature was 102, and his respirations were slow and deep. He developed paralysis of the left side. He was transferred to the Willard Hospital, where I first saw him.

The diagnosis was fracture of the skull with intracranial hemorrhage. I advised operation. December 12 I opened the skull over the right motor area and found the large subdural hemorrhage (Fig. 2). The dura was opened and a large blood-clot as well as a large quantity of liquid blood was evacuated. The patient was returned to bed; he was conscious and recognized his family about twenty-four hours after the operation. He remained conscious for one week, when he again complained of severe headachs in the right mastoid and supramastoid region. Two days later I advised a second operation, as the patient again developed delirium. The radical mastoid was done, as well as removing a plate of skull over the mastoid region. An abscess was found in the temporosphenoidal lobe and was drained. The patient improved for a few days and then gradually grew worse.

We again opened and explored in the temporal region, draining another abscess. In all, we drained three abscesses in the forty-seven days that the patient was under our care. He died Jan. 27, 1911, forty-seven days after entering the hospital and two days after the last operation, from an abscess in the templar sphenoidal lobe. Autopsy was held by the coroner physician, Dr. Hunter, who gave the following report: "Patient came to his death from multiple abscesses of the brain, following an injury sixty-eight days previous to his death."

Summary.—Fracture of the vault and base of the skull; patient unconscious twenty-one days before operation; conscious twenty-four hours after operation; unconscious eight days after operation, and unconscious or semi-conscious until death.

SERIES 2 (Table 2).—CASE 4.—Mrs. D., aged 32, housewife, American, mother of four children—healthy, about one and one-half years before entering the Willard Hospital (April 13, 1909) complained of headache on the right side. Diagnosis, hysteria. Epilepsy followed. Headache became worse and worse, with cerebral vomiting, unconsciousness, and almost complete blindness. Patient entered Willard Hospital having been unconscious for about two weeks; left hemiplegia. Right motor area was operated on; dura mater was opened; brain bulged; tumor elicited but could not be removed; plate of bone was removed and skin sutured. Large tumor developed. Later skin separated and cerebral fungi formed. Patient gained consciousness; talked naturally and freely; could recognize her friends. She died May 29, forty-six days after the operation. At autopsy, gumma of brain was found with syphilitic meningitis (Fig. 3).

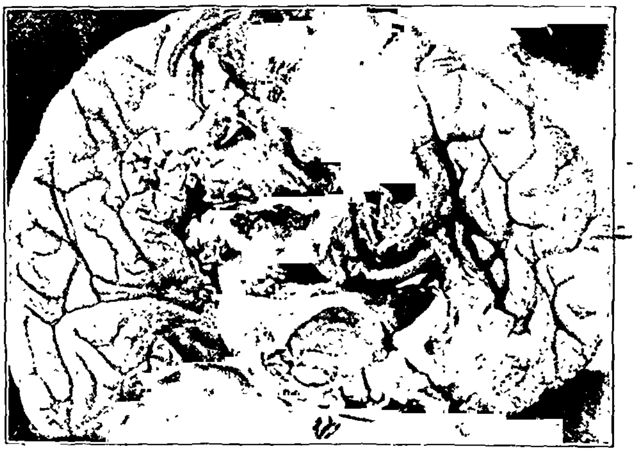

Fig. 4.—Multiple cysts of the brain, Table 2, Case 11.

SERIES 2 (Table 2).—CASE 11.—M. P., aged 8, entered hospital July 9, 1910; died July 19. March 1 patient came home from school feeling tired. A physician was called. There was some fever. The diagnosis was grip. Patient stayed home from school three weeks. Three weeks later had vomiting without nausea associated with headache, left parietal region, lasting twenty-four hours. Diagnosis was acute gastritis. Headache and vomiting continued at intervals until June 25, when the patient became unconscious, remaining so for twenty-four hours. Right hemiplegia was present on return of consciousness. July 9 patient entered Willard Hospital with right

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[2] MacEwen: (Glasgow) Paper read at International Medical Congress, Budapest, 1909, Section vii, Report xliii.

TABLE 3.—FRACTURES OF SKULL WITH INTRACRANIAL HEMORRHAGE

No.	Name	Sex	Age	Nationality	Occupation	Injury	Fracture	Scalp	Paralysis	Mental State	Operation	Duration of Injury	Hospital	Date	Result	Died after operation	Causes of death
1	R	M	47	Irish	Painter	Fell from ladder 7 feet	Parietal base middle fossa	Lacerated	L. side	Unconscious	Opened skull and dura evacuated clot and drained	7 days	R.B.	1-31, '11	Died	6 days	Pneumonia
2	K	M	55	Irish	Bricklayer	Fell down steps	Temp. region, around occip. region, and temp. region of opposite side	Large hematoma	R. side	Unconscious	Opened skull and dura evacuated clot and drained	1 day	F.W.	3-5, '11	Died	6 hrs.	Hemorrhage
3	P	M	40	Ger.	Contractor	Scaffold fell	Parieto-occipital	Lacerated	None	Conscious	Removed fragments of skull	3 hours	F.W.	9-22, '08	Cured		
4	M	F	39	Am.	Modiste	Fell from moving car	Occipital region	Lacerated	None	Unconscious	Opened skull, evacuated extra dural clot	3 days	F.W.	10-10, '07	Cured		
5	B	M	3:	Am.	Student	Struck by moving car	L. front lobe	Lacerated	None	Unconscious	Opened skull, drained extra dural clot	3 days	F.W.	3-18, '09	Cured		
6	F	M	7	Am.	Child	Fell down stairs	L. motor area	Negative	Constant jerking of all extremities	Unconscious	Opened skull and dura, L. motor area	3 hours	F W.	7-6, '08	Cured		
7	P	F	40	Am.	House-wife	None	None	Negative	L. side	Unconscious	Opened skull, R. motor area	8 days	F.W.	10-29, '09	Died	24 hrs.	Cerebral hemorrhage
8	B	F	65	Jew.	House wife	Fell on stairs	Parieto-occipital	Swollen	R. side	Unconscious	Opened skull and dura, L. motor area, large clot	8 days	F.W.	1-30, '11	Died	3 days	Cerebral hemorrhage
9	L	M	42	Jew.	Contractor	Scaffold fell	R. motor area	Lacerated	L. side	Unconscious	Opened skull, R. motor area	7 days	F.W.	4-11, '10	Died	6 hrs.	Cerebral hemorrhage
10	P	F	14	Polish	School-girl	Jumped from porch 14 feet	R. motor area	Negative	L. side	Epilepsy	R. motor area decompressed	2 years	F.W	10-5, '08	Epilepsy cured, greatly impr. paral.		
11	B	M	28	Am.	Laborer	Kicked by horse	R. front eminence	Lacerated	None	Epilepsy	Opened skull, R. front eminence	6 years	F.W.	3- , '06	Cured		
12	C	M	4	Am.	Child	Forceps delivery	R. motor area	Lacerated	L. side	Epilepsy	Opened skull, R. motor area	4 years	F.W.	3-15, '09	Epilepsy cured, paral. greatly improved		
13	W	M	21	Am.	Farmer	Kicked by horse	L. front	Lacerated	None	Epilepsy	Removed deformed fracture	15 years	F.W.	3- , '09	Died	1 week	Pneumonia

Number of cases, 13; number of deaths, 6; average time of unconsciousness before operation, 8 days. All patients who received surgical interference within 24 hours lived.

hemiplegia, vomiting at intervals, severe headache and Babinski constant both feet. Choked disk was marked. Diagnosis was marked intracranial pressure. I advised decompression to relieve pressure (refused). I sought expert opinions; all disagreed with me. July 10, patient was unconscious four hours; regained consciousness but complained of severe headache. July 11, headache was very severe. Patient improved from July 12 until on July 15, she went into complete coma. She was operated on July 15 under chloroform anesthesia. The child gained consciousness after large cyst was evacuated. Died double pneumonia July 19 (Fig. 4).

NOTE:—Complete histories of all cases are in my possession but are not submitted for publication on account of their length.

I am indebted to Dr. B. H. Orndorff for all laboratory work done.

7 Madison Street.

ANESTHESIA FROM NITROUS OXID-OXYGEN PLUS CARBON DIOXID

WITH SPECIAL REFERENCE TO COMBATING SHOCK *

E. G. MARTIN, M.D.
DETROIT

My purpose in presenting a paper on nitrous oxid-oxygen is to bring out, as forcefully and briefly as possible, its advantages and the added value of rebreathing to combat shock.

Some forty years ago, Dr. Andrews of Chicago discovered that by adding oxygen to nitrous oxid during its administration, the cyanosis was eliminated without impairment to its anesthetic properties. Since that time nitrous oxid has been widely used, but considered mostly as a dental anesthetic and for use in very minor surgical operations; the layman knows it as "laughing gas." During the last few years attention has been called to nitrous oxid anesthesia more seriously, and after extensive use and investigation by some of our leading surgeons—such as Crile, Meyer, Halsted, Kelley, Bevan, and the extended laboratory investigations of Hamburger and Ewing—of the comparative effects of nitrous oxid, ether, and chloroform narcosis on the blood, the American Medical Association reports through its commission on anesthesia that "as a routine anesthetic, nitrous oxid has a peculiar value, . . . and in the hands of highly skilled anesthetists, the method is the best yet devised."

Hamburger and Ewing say as to ether:

> The color index shows a rather constant drop, starting immediately after anesthesia and reaching its lowest point on the fifth and sixth days. This would indicate a relative loss of hemoglobin per cell, and again is unlike nitrous oxid results, in which the only sign of a low color index is found immediately after the anesthetic mask is removed, and which is completely gone in two hours.
>
> The volume-index likewise shows an immediate loss, which is most marked in twenty-four hours, and again on the fifth and seventh days. In nitrous oxid readings, the percentage volume remained unchanged throughout.

A demonstrable anemia is produced even after a fifteen-minute anesthesia of ether that does not begin to improve until after the fifth day, and as Coburn[1] says, "such an effect as this which does not begin to improve until after the fifth day must certainly retard convalescence even in favorable cases, and in critical cases may be the determining factor in producing a fatal termination."

It has been recognized for some time that ether increases the toxemia of infection and impedes the functional activity of the leukocytes thus lessening the patient's resistance. We have been advised against administering ether to tuberculous patients, the result often being the establishment of new foci of infection or the lighting up of an old one. Is this due to the irritant properties alone, or is it more reasonable to believe that it is due to the lowered resistance produced? Further, is it not a logical deduction to make, that patients whom we believe to have no infection, and even those in the so-called simple cases for operation, should have the benefit of an anesthetic that causes no such trouble, that does not, like ether, reduce the functional activity of the leukocytes and retard Nature's forces?

C. B. Parker[2] reports 218 cases of nitrous oxid-oxygen anesthesia, of which nearly all were major operations and the subjects unfavorable for any anesthesia. Among them were patients suffering from organic disease of the heart, kidneys, and lungs, wasting and suppurative conditions, asthma, empyema, diabetes, and alcoholism, the very old and the very young; patients greatly overweight, those who had developed alarming symptoms in previous attempts with ether or chloroform, and those who had experienced the distress of previous etherization. Parker came to the conclusion that nitrous oxid was safer and more agreeable.

Peairs[3] says that "nitrous oxid and oxygen is the safest of all anesthetics; post-operative complications are less frequent," and that its more general use should be encouraged.

In the so-called "borderland" cases, those of grave infections and operations on the very ill, the consensus of opinion seems to be that nitrous oxid-oxygen anesthesia gives the chance to live and is often the hinge on which an ebbing life may turn. In the "inevitably fatal" cases, Crile says: "Not a patient showed the rapid march to fatality immediately following the operation, which occasionally follows ether."

It would seem advisable to endorse the report of the Anesthesia Committee at St. Louis in 1910, that gas in the hands of highly skilled anesthetists as a routine anesthetic is the best method yet devised, when such men as George W. Crile of Cleveland use it in from two to twelve operations every day and grow more enthusiastic in its praise as their experience increases. At a recognized medical center such as Johns Hopkins Hospital, it is in general use every day by such men as Howard A. Kelley and is advocated enthusiastically by Gatch, an authority on the subject of rebreathing, as the best and safest anesthetic.

Coburn[1] quotes Dr. Frederick Hewitt, a leading authority of London, as saying: "There is no form of anesthesia at present known which is so devoid of danger as that which results from nitrous oxid when administered with a sufficient percentage of oxygen to prevent all asphyxial complications."

When such reports come from such sources we must, it would seem, refrain from settling down with too much complacency in this regard, if not in justice to the profession, out of duty to the patients. I wish to discuss briefly the newest and what I believe to be the best method of using nitrous oxid-oxygen, namely, by rebreathing.

It has been found that in rebreathing one's own carbon dioxid during the administration of nitrous oxid and oxygen, the patient's general condition improves in every

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* Read before the Wayne County Medical Society, April 10, 1911.

[1] Coburn, R. C.: The Advantages of Nitrous Oxid-Oxygen Anesthesia, THE JOURNAL A. M. A., Feb. 18, 1911, p. 499.

[2] Parker, C. B.: Cleveland Med. Jour., July, 1910.

[3] Peairs: THE JOURNAL A. M. A., April 30, 1910, p. 1422.

respect, pulse, respiration and general well-being, and as an explanation for these facts I wish to quote from an editorial[4] in THE JOURNAL regarding a series of articles by Yandell Henderson of New Haven, dealing with an elaborate experimental investigation of shock from an entirely new basis.

> Briefly, Henderson believes that shock primarily is due to a diminished amount of carbon dioxid in the blood and tissues of the body. This lack of the normal amount of carbon dioxid is termed acapnia. His experimental results are most interesting and they are full of much practical suggestion to the surgeon, because they seem to show that some of the technic, commonly practiced, is based on erroneous ideas. In a short summary of this kind, necessarily only a few of the most interesting features of the work can be cited.
>
> Henderson reviews the literature of carbon dioxid as a hormone, or chemical regulator of respiration, to show that the failure of circulation and of the nervous system in shock and the cessation of respiration in true apnea must logically be referred to the same cause,—acapnia.
>
> Experiments on dogs, which were devised to bring about a sudden great diminution in the carbon dioxid content of arterial blood, resulted in an increase of the heart-rate up to the point of cardiac tetanus and death. Voluntarily forced breathing in man induces symptoms resembling shock, probably because the increased pulmonary ventilation results in an abnormally great exhalation of carbon dioxid. Pain, ether, excitement, sorrow, fear, and other conditions inducing shock, involve excessive respiration. Because a marked diminution in the amount of carbon dioxid in the arterial blood creates a lack of the normal stimulation of respiration, excessive artificial respiration in dogs for twenty-five or thirty minutes, by causing greatly increased pulmonary ventilation, is followed by a cessation of breathing so prolonged that the heart fails for lack of oxygen. During this anoxemia an acidosis occurs, owing to an accumulation in the blood of products of incomplete tissue combustion. The administration of carbon dioxid gas during the period of cessation of respiration, induces an immediate return of natural breathing; and the administration of oxygen affords ideal conditions for the prevention of the asphyxial acidosis. Anesthetics tend to prevent shock, because they diminish the excessive respiration caused by pain. The respiratory excitement during the initial stages of anesthesia, diminishes the carbon dioxid content of the blood, and thus tends to induce a subsequent failure of respiration. Similarly, ether, unless neutralized by morphin, often causes (in dogs) hyperpnea, acapnia and a consequent fatal apnea. Of particular interest in this connection are observations by W. D. Gatch in several hundred anesthesias, during which patients were allowed to rebreathe some of their own carbon dioxid. In no instance was there any evidence of shock. These observations seem to confirm Henderson's theory to a greater or less degree; and they lend evidence to his statement that "skilful anesthesia consists in maintaining the threshold of the respiratory center for carbon dioxid at a nearly normal level, and in avoiding the development of either acapnia or hypercapnia."

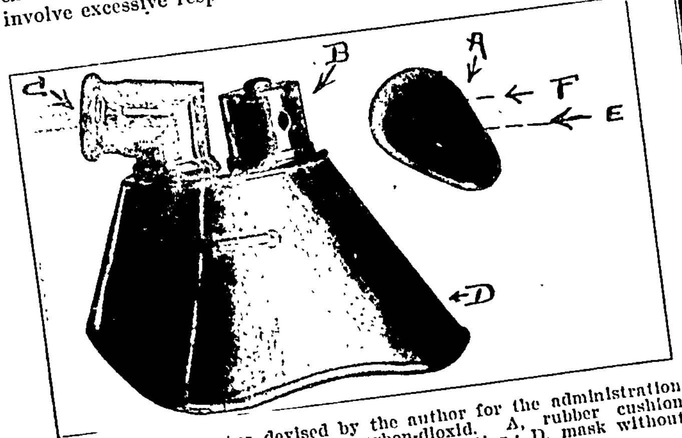

Fig. 1.—Apparatus devised by the author for the administration of nitrous-oxid—oxygen plus carbon-dioxid. A, rubber cushion (underside); B, exit valve; C, elbow connection; D, mask without cushion; E, inner aspect of B; F, inner aspect of C.

I have been using the rebreathing method for nearly a year, and have observed that the rapid pulse becomes slower, seldom faster or weaker, with an increase in the tension and the rapid respiration sometimes seen, becomes slower and deeper. No patients have shown any symptoms of shock and all have seemed improved, being in a more tranquil state of mind and without the depressing after-effects of ether.

As Gatch[5] observes, "very sick patients with a rapid pulse and quick shallow respiration actually seem benefited by this form of anesthesia." The duration of time that I have continued this anesthesia runs from five to one hundred and twenty-five minutes. It has been my practice recently to administer a hypodermic injection of morphin gr. 1/6, scopolamin hydrobromate gr. 1/150, one hour preceding the operation, and where the patient is not tranquil at the half hour, the dose is repeated. This has proved most satisfactory, giving a smoother and more relaxed anesthesia. If relaxation is not sufficient, ether is administered for five or ten minutes, returning to the gas with relaxation as desired.

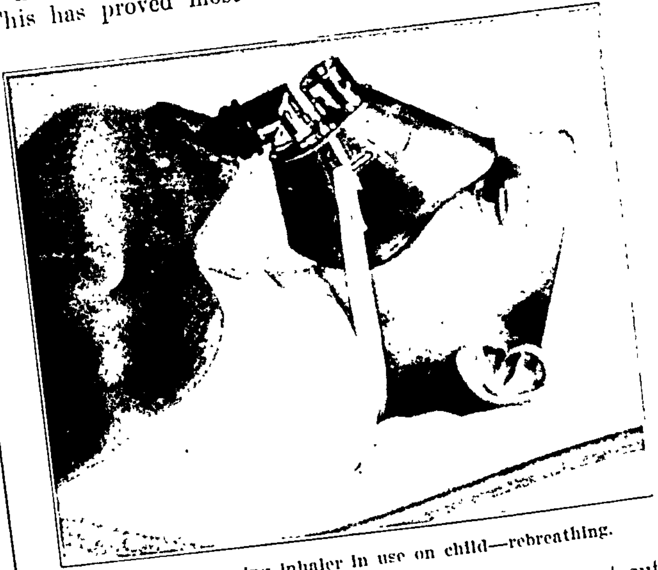

Fig. 2.—Showing inhaler in use on child—rebreathing.

The apparatus which I have devised for the purpose is shown in Figure 1, while Figure 2 shows it in actual use, held in position by an elastic tape, on a child ten years old. This also illustrates the adjustability of the rubber cushion, which is made by stretching the wrist of a rubber glove over the edge of the mask (A). The direct connection of the rubber bag to the mask allows perfect freedom in rebreathing. There is but one valve to be operated (B) and that requires but a slight turn about once every two minutes. By this exit valve the bag is emptied in five or six breaths, or at once by pressure on the bag. The elbow connection may be turned to one side or the other if the straight position shown seems undesirable. If rebreathing is not desired there is a place on the inner end of the elbow connection (which projects into the mask) to insert a little round tin float-valve (F), which prevents exhaling into the bag; when this valve is in use the valve cap (B) is left open. The rubber tube shown ends in a Y connection to a nitrous oxid and an oxygen cylinder (extra Y and cylinder may be attached if desired).

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[4] Feb. 11, 1911, p. 424.

[5] Gatch: THE JOURNAL A. M. A., May 5, 1910, p. 778.

The bag is filled, ordinarily, about half full of nitrous oxid, followed by a small spurt of oxygen, sufficient, as experience teaches, to keep the color good.

I have used this apparatus successfully for about one year; it is the result of considerable experiment on my part to devise an apparatus that is light (about one pound), sterilizable, unbreakable and inexpensive.

It has been my aim to show by the experiments of Henderson on shock that the good reports on nitrous-oxid-oxygen, rebreathing, or autostimulation as it might be termed, are founded on scientific laboratory experiments, besides clinical observations, and that this anesthesia is not a mere fad to be cast lightly aside. It is surprising to find so many who are wholly unfamiliar with the progress in anesthesia and who even seem unwilling to believe that there is a necessity for improvement in the present method of using ether alone.

It is not requested that nitrous-oxygen-carbon dioxid should be accepted as a panacea for all the evils attendant on anesthesia, nor can it be expected that ether will be discarded as chloroform has been in the past, but if the clinical studies, the experimental research and the conclusions of so many eminently reliable men are considered, it would seem that but little argument could be advanced against its superiority as an anesthetic.

506 Washington Arcade.

MYOTONIA ATROPHICA

WITH A REPORT OF TWO CASES

FOSTER KENNEDY, M.D., B.Ch. (Queen's)
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AND
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NEW YORK

The symptom-complex to which Rossolimo[1] gave the name of "myotonia atrophica" is not only an extremely rare disease, but apparently is exceptionally uncommon in America, the two cases reported in 1908 by Ramsay Hunt[2] being the only ones on record. Batten and Gibb,[3] in 1909, collected reports of all the cases which had been described under various titles up to that time, which showed the rather definite clinical picture of myotonia atrophica. They were able to enumerate twenty, and as a result of their study state the following as the cardinal symptoms of the disease:

> 1. Weakness and wasting of the following muscles, viz.: the orbicular muscles of the mouth and eyes; the temporals and masseters; the vasti muscles of the thighs with the recti femuris frequently escaping completely; the muscles of the anterior tibial groups, resulting in bilateral foot-drop.
>
> 2. The myotonic phenomenon evidenced more particularly by a marked difficulty in extending the fingers from a flexed position. The muscles show a diminution of irritability to the faradic current and, to a lesser degree, to galvanic stimulation as well. Certain cases show in localized muscle groups a modified myotonic electrical reaction, namely a slow contraction and slow relaxation to both forms of electricity.
>
> 3. The deep reflexes are depressed according to the degree of wasting in those muscles necessary for their production.

There is apparently a frequent tendency for the disease to take on familial characteristics, but this is by no means constant and was not observed in either of our cases.

Case 1.—*History.*—A clerk, G. S., aged 35, was admitted March, 1911, to the out-patient department of the Neurological Institute, in the service of Dr. Fraenkel, by whose courtesy we are enabled to report on the case. The patient complained of weakness in the legs which, however, was not sufficient to produce extreme disability in walking. (He had just walked over one and one-half miles to reach the hospital, and was by no means greatly fatigued.) Two years before coming under observation, he noticed that he was more easily made tired than usual, especially by going upstairs, in doing which it became necessary for him at all times to make use of the bannisters. Later he found that he frequently tripped against small obstacles in his path; in stepping from the roadway to the pavement, he would fail to raise his foot sufficiently to clear the edge of the latter, etc., and the gradual onset of double dropped foot at last produced the characteristic steppage gait suggestive of a high-stepping horse. The patient's general health remained perfect; he had no pain or paresthesiæ; no sphincter trouble, nor at any time any difficulty with vision. Nevertheless, his condition was stated by two or three medical men to be due to incipient tabes dorsalis. His visit to the Neurological Institute was more the result of his wish to be cleared of what he considered to be the unjust charge of antecedent lues than of the hope of cure of his present disease. He had had measles, whooping-cough and a severe attack of scarlet fever in early childhood. During adolescence and early manhood, he had had three separate and serious attacks of diphtheria. Nothing of a neuropathic nature could be discovered in his family history. He was an only child; his mother was alive and in good health, while his father had but recently died of pneumonia at a fairly advanced age.

Examination.—The patient was seen to be a small, poorly built man with the worn mask-like expression characteristic of the myopathic facies. There was no defect of any of the special senses. The movements of the eyeballs were perfect, but there was very marked weakness of the orbicular eye muscles so that the lids were drooped and the eyes could be closed only feebly. The pupils were normal. The temporal fossæ were scaphoid, appearances produced by the complete atrophy of the temporal muscles. The mouth was lax and patulous. The masseters were below normal in size and power, and the strength of the movements of the jaws was distinctly poor. The sternomastoid muscles were completely atrophic, and were represented in each case by a thin fibrous cord. The abolition of these muscles threw the sternal ends of the clavicles into unnatural prominence, together with the other neck muscles which were quite unaffected. The biceps, triceps and deltoid muscles of both arms were weak and considerably wasted. The muscles of the hands and forearms were of normal bulk and power, but it was found that the patient had remarkable difficulty in relaxing the grasp of either hand—an expression of muscular hypertonus which could not be elicited elsewhere in the body. The trunk muscles were normal. In the lower limbs the internal and external vasti muscles were wasted, though there was complete retention of the rectus muscle of each thigh. The anterior tibial muscles and the peronei were wasted on either side so that a condition of bilateral incomplete foot-drop had resulted. There was no sensory change. The triceps and biceps jerks were diminished while those of the wrist were fairly brisk. The abdominal reflexes were equal on the two sides. The knee-jerks were present but equally depressed on the two sides; the ankle jerks could not be obtained. The plantar reflexes were of the normal flexor type. Electrical reactions: the intrinsic muscles of the hands and those of the forearms showed slow contraction and slow relaxation to both faradic and galvanic currents.

Case 2.—*History.*—The patient, J. F., a Russian Hebrew who had lived for many years in the United States, by trade an insurance agent, was also in Dr. Fraenkel's service at the Neurological Institute. He presented a family history exceptionally free from influences which might be regarded as bearing on the development of his condition. Both his paternal and maternal grandparents showed unusual longevity, while of his nine brothers and sisters, eight had reached a medically uneventful middle age and the ninth had died as the result of an untreated strangulated hernia. He himself, a married man of 43, of temperate habits, had suffered from no illness with the exception of occasional gastric disturbances, until the onset of the disease for which he presented himself at the clinic. About March, 1908, the patient fell as he was alighting from a street-car, striking heavily upon his right knee and fainting as a result of the accident. He asserts that the trauma to the knee-joint was sufficiently severe to confine him to bed for six weeks, but immediately on arising, he began to perceive a weakness in the right leg which became progressively worse so that he would stub his toe in walking. Simultaneously a cataract began to develop in the left eye; this was subsequently removed. The patient next noticed in turn a diminution in power in the right forearm, the left extremities and, finally, in the muscles which supported the head. The symptom for which the patient sought relief most urgently was an intense fatigue, which, coupled with his loss of power in the extremities, had prevented his working for over a year. He expressly emphasized that at no time had he experienced pain, though of late he suffered great annoyance through weakness of the muscles of deglutition, a diminution of sexual power, and a clouding of vision in the right eye. The sheer effort of undressing in the clinic caused him to perspire profusely and drop back to the couch exhausted, an evidence of the extent to which the disease had progressed.

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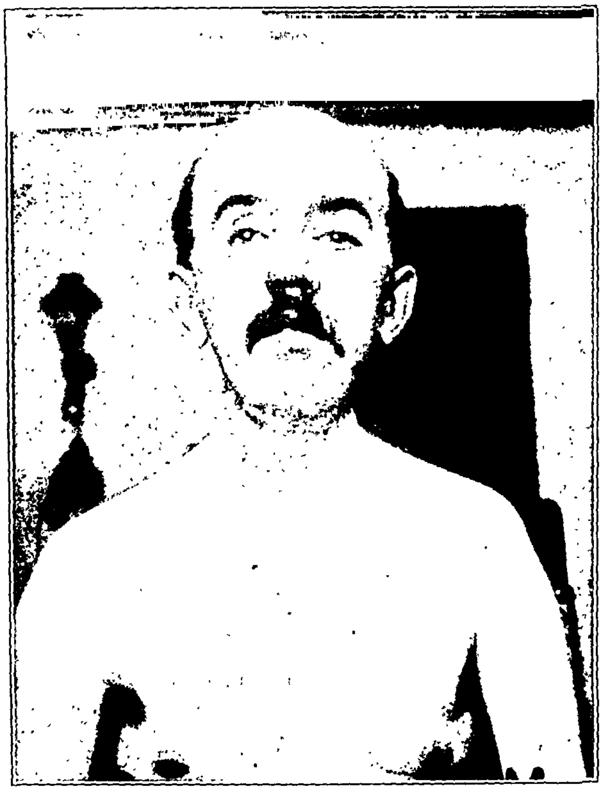
[1] Rossolimo: De la myotonie atrophique, Nouv. Iconog. de la Salpêtrière, 1902, p. 63.

[2] Hunt, J. Ramsay: Jour. Nerv. and Ment. Dis., 1908, p. 269

[3] Batten and Gibb: Brain, 1909, p. 187.



Case 1. G. S., showing hollowed-out temporal fossæ, myopathic facies with dropped eyelids and patulous mouth. Absence of sternomastoid muscles.

Examination.—Physically the patient was a moderately emaciated, small, stooped man, whose face showed a peculiar lack of expression, which, without being particularly stupid, seemed vacant, lifeless and tired. He walked with a typical steppage gait, the very effort of which exhausted him so severely that the act appeared laborious. He spoke in a slow, monotonous and subdued tone which produced the impression of tired vocal muscles. The wide, artificially produced irregularity of the left pupil prevented a normal reaction to light, but in the right eye, though reflected light disclosed a beginning cataract, the pupillary response to both light and accommodation remained brisk. The tendon reflexes showed both triceps jerks absent, but the supinator jerks faintly present Both quadriceps contractions were quite well preserved, but a right Achilles jerk was only faintly retained and the left Achilles could not be elicited. Neither Babinski's sign nor ankle-clonus was present. Epigastric, abdominal and cremasteric reflexes were actively responsive. Sensation was normal The muscular system revealed myotonia present when the patient made a fist with his left hand. The fingers were relaxed so slowly from the closed position that the patient's hand dropped away from the hand he grasped before his own became fully extended, but after repetition of the movement this difficulty rapidly disappeared. The left side of the face seemed even more relaxed than the right, though the following facial muscles were markedly wasted on both sides, viz. the temporals, producing hollows in the temporal fossæ; the levators palpebræ, causing the lids to droop heavily; the masseters, permitting the cheeks to sink inward and making it difficult for the patient to chew solid food, and the orbicularis oris, which gave a weak expression to the mouth. Perhaps the most striking feature in the whole picture was the total absence of the sternocleidomastoids, but the trapezii were also considerably involved, while the practically total obliteration of the triceps caused the biceps to appear almost hypertrophied by contrast. The extensors of the forearm, especially the left, were weak and flabby. The muscles of the trunk and abdomen had escaped, though both recti abdominalis seemed somewhat relaxed. This weakness, however, was not sufficiently grave to prevent the patient from raising his body from the recumbent position, provided that his head was supported when he made the attempt. In the lower extremities the adductors of the thigh were somewhat weaker than the abductors, and in the leg on either side the tibialis anticus and peronei showed great atrophy. The electrical examination made by Dr. J. W. Stephenson resulted as follows: "There was no complete reaction of degeneration in any of the muscles examined, but with the exception of the right biceps and the flexors and extensors of both forearms, all the muscles showed some alteration of reaction, namely, there was an atypical myotonic reaction. Both triceps, trapezii and deltoids gave no faradic response. These, with the left biceps, showed decreased excitability to galvanism."

While the first of our cases conforms exactly with the clinical picture drawn by Batten and Gibb, it is to be noted that in the second case there occurred in addition an intense muscular weakness and premature bilateral cataract. The former condition is explicable by reason of the advanced stage of the disease, while in regard to the latter it is interesting to note a remarkable family of thirteen members mentioned by Greenfield,[4] of whom six were healthy, two had premature cataract, three myotonia atrophica, and two suffered from both conditions. In view of such a striking and persistent combination of these two conditions it would seem that the association of cataract with the symptoms-complex under discussion is more than accidental and would suggest that both may be abiotrophic in character.

Infant Mortality.—Dr. Jacobi of New York recently gave statistics showing that the industrial conditions in many of our communities are largely responsible for our unnecessarily high infant mortality: "Women working at home are very often worse off even than their sisters in the factory. Their constant treadling of the machine undermines their health. Seamstresses develop anemia, tuberculosis and pelvic diseases. Cigarmakers who work at home develop consumption to the extent of 90 per cent. Such women living in dirty dwellings, without air or light, bear children that are starved before they are born—who are infected with hereditary disease—and are destined either to perish miserably, or, more miserably, to populate asylums, hospitals and penitentiaries."—C. S Sheldon in *Bulletin American Academy of Medicine.*

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[4] Greenfield: Rev. of Neurol. and Psychiat., 1911, ix, 169.

THE IMPORTANCE OF THE QUANTITATIVE REGULATION OF THE DIET[*]

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It will generally be admitted that modern methods of infant-feeding have been of very great benefit. It is one of the very few accomplishments in dietetics that the profession may point to with pride. Yet it differs from the older methods of milk feeding chiefly in the fact that the nutritive ingredients of the milk are regulated quantitatively with greater accuracy.

Our grandmothers used to dilute cow's milk in giving it to infants. Their object was to make the milk "less rich" and more digestible, with fewer "curds." They were in reality lowering the percentage of protein, which in cow's milk is too high for infants. Then they sweetened it, apparently to make it more acceptable to the taste. But this also fulfilled the very desirable object of increasing the carbohydrates, which are low in cow's milk as compared with human milk. And further, if the baby did not gain in weight they used "richer" milk, that is, they increased the percentage of fat in the milk mixture, thus adding materially to its nutritive value.

So "modified milk" and "percentage feeding" are not new methods—for milk was always modified—but they represent the introduction of accuracy in the quantitative regulation of the infant's food. It has accomplished so much that at first sight it seems hard to believe that the great advance in infant-feeding is based essentially on so simple a thing as greater accuracy, yet this really is the case. The explanation lies in the fact that this accuracy permits the physician to regulate the amounts of the different foodstuffs—protein, fats and carbohydrates—which comprise the nutritive part of all food. He can do this with sufficient accuracy to allow him to study the effects of such modification of the amounts of the different foodstuffs, and to adapt the diet intelligently to meet the requirements of the individual case. The method needs no defense from us; our object is to use its well-known success as an argument for the extension of the same principle to other fields—to the regulation of the diet of adults in all cases in which greater accuracy will be advantageous.

In general, the regulation of the diet of adults by physicians is not a matter in which the profession can take much pride. With a few directions of "Do take this" and "Do not take that"—the selection of the foods being largely regulated by tradition based on empiricism—the physician leaves the rest to the patient's appetite and the judgment of a nurse or some lay person. This is equivalent in infant-feeding to the direction: "Feed the baby milk"—leaving all other details for the family to work out. It is essentially an absurd position, which is perpetuated by two factors. One is the lack of appreciation by physicians of what may be accomplished by more scientific diet regulation; the other is the difficulty of its application in their hands. This is due largely to the fact that the present generation of physicians was not taught the fundamental facts with any reference to their practical application. This latter defect will soon be remedied, for the importance of the scientific regulation of the diet is being more fully recognized by the profession. The medical schools are beginning to give instruction along these lines, and the coming generation of physicians will be prepared to utilize these valuable measures fully. Even now its value in the treatment of disease has been proved, and an important question for the older physicians to decide is whether they will "keep up with the procession" by adopting this advance in dietetics, or will wait for the more efficient youngsters to crowd them to one side.

You need but to mention the word "diabetes" to the wide-awake physician of to-day and he will recognize that these remarks apply to this disease at least. He knows that the most successful treatment of this disease is based on the careful quantitative regulation of the amounts of carbohydrates allowed in the diet, combined with such an adjustment of the other foodstuffs as to furnish sufficient nutriment for the needs of the system.

The old haphazard methods of treating this disease are no longer justified. Our duty to our patients demands the quantitative regulation of the amount of carbohydrates given in the treatment of diabetes, and the recognized importance of this measure is again cited by us as an argument for the extension of this measure over a wider field.

It has not so generally been recognized that the proper regulation of the amount of protein in the food is almost as important in the treatment of nephritis as is the regulation of the carbohydrates in diabetes. Yet, all will admit that the fundamental principle of the treatment of this disease is to spare the kidneys from unnecessary work. Since one of the chief functions of the kidneys is to eliminate the waste products of nitrogenous metabolism it necessarily follows that we can secure this result best by limiting the amount of the nitrogenous material, or protein, that is taken in the food. This matter has been emphasized by Von Noorden and others, and an article by one of us, delivered before this Section last year, dealt with this matter at length.[1]

A further reason for the quantitative regulation of the diet in diabetes and nephritis is the fact that it is not only necessary to reduce the amounts respectively of carbohydrates in the one case and of protein in the other, but that it is of equal importance to make sure that the patient is getting a diet of sufficient nutritive value to meet the requirements of the system for heat and energy and to offset tissue waste. Unless this is provided for we add insufficient nutrition or partial starvation to the condition of disease already existing. This can best be determined by a calculation of the caloric value of the diet. In order to ascertain this we must know with some approach to accuracy the amounts of food taken, which is another way of expressing the quantitative regulation of the diet.

In another field this same consideration holds. Whenever the heart is affected the question of a sufficient supply of nutriment to enable it to maintain its strength is of vital importance. Unless there is sufficient nourishment the heart-muscle will weaken, and disastrous results will follow. This is of the greatest importance in the so-called reduction cures for obesity. If in these cases the heart is not strong, as is often the case, serious and even fatal damage may be done to the heart by cutting the food down too far or too rapidly. In such cases the reduction can be done safely only when the nutritive value of the diet is followed closely. Furthermore, it hardly needs to be argued that in any system for reducing the weight the quantitative regulation of the diet will enable the physician to study the case more intelligently and to get more satisfactory results than if this measure is neglected. This is true whether there is any danger from the heart or not.

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[*] Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Arnold, H. D.: The Importance of a Low Protein Diet in Chronic Nephritis, The Journal A. M. A., Dec. 24, 1910, p. 2193.

In many cases of apparent neurasthenia and debility or malnutrition we have found that a calculation of the diet not only helps in the understanding of the case and in the diagnosis but points the way to treatment and enables us to give a more accurate prognosis.

It is interesting to note that recently the diet in cases of tuberculosis has been the subject of extensive study from this point of view. It has been proved that patients do as well or even better when such study and quantitative regulation provides a well-balanced diet, with an abundant but not excessive amount of nutriment.

In gout and those forms of rheumatism in which metabolism is at fault the quantitative regulation of the food is important. These conditions are not as yet as well understood as we might wish in these respects, but this method will enable us to give more scientific consideration to the problems which these diseases bring up. In this way we may hope for a better chance for a successful solution of these problems. In both diseases the cutting down of the protein of the diet seems advantageous, and in gout that careful regulation of those articles of food that contain purin bodies, which is an essential feature of the treatment, can best be secured by the quantitative regulation of the diet.

We have pointed out a number of conditions in which the quantitative regulation of the diet will be of aid and in many cases it is essential to successful treatment. Few will deny the desirability of such measures. The question arises whether it is practicable in application. In order to carry out these measures we must know with some accuracy the composition of food and we must understand a few of the fundamental principles of dietetics. Fortunately, the more recent books on treatment have taken up these matters in some detail. With some patience and study the matter can be worked out. In many of the diseases mentioned, the text-books or monographs will give the desired information. At first, the work is difficult and time-consuming, because it is new and is more or less complicated, but familiarity soon brings facility, and the results well repay the time and trouble involved. We have used the diet chart prepared by one of us (Arnold) in practice for several years and have found that it simplifies the problem a great deal, and makes it feasible to do this work in private practice satisfactorily, when once the physician is conversant with the method of its use. We have repeatedly found that an intelligent nurse can use these charts not only to record, but to calculate the diet, and this has been done also by intelligent members of the family of the patient. Such reports enable the physician to follow his case with little trouble and to handle it much more intelligently. These charts are published by the W. B. Saunders Company. They are not essential for this work, for all that is essential is for the physician to get his data from any reliable source and he can apply them in any convenient form. Such charts merely bring convenience in such methods. With such an aid we have found it perfectly feasible to carry out this work in practice. From an extended experience with this work we can say with confidence that it is well worth while in any condition where the diet enters as an important factor in treatment. By such means we raise dietetics from unintelligent empiricism to a fairly satisfactory scientific basis.

427 Beacon Street.

ABSTRACT OF DISCUSSION

Dr. Wilder Tileston, New Haven, Conn.: The quantitative regulation of the diet is of extreme importance in the treatment of all conditions of undernutrition and obesity. It is not at all difficult to regulate the diet in this way if one obtains tables showing the nutritive value of foods. Such tables can be obtained from Bulletin 28 of the Department of Agriculture, on the payment of 10 cents. The principles governing the diet of the ill are frequently misunderstood and misapplied—more so than other principles in medicine.

THE THYROID WITH SPECIAL REFERENCE TO HYPERTHYROIDISM AND A NEW METHOD OF TREATMENT

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FORT WAYNE, IND.

The surgical treatment of exophthalmic goiter is based on the hypothesis that the symptoms are due to hypersecretion, or hyperabsorption, or both. In the present state of knowledge concerning the chemistry of the secretion of the thyroid and other ductless glands, this is the best working hypothesis. It is probable, rather than possible, that in the near future we may have specific serums to counteract the various symptoms of thyroid disease, but until we know more than we do now, we can do no better than to work on the theory above given.

Ligation of one or more of the thyroid arteries has proved of benefit in some cases, but in the main the results have been disappointing. If one recalls the arterial supply to the thyroid, one ceases to wonder that this treatment has not proved satisfactory. Ligation of the common carotid does not affect the function of the brain, and, if a sufficient interval is allowed to elapse, both common carotids may be ligated without interfering with the function of the brain. The analogy between the arterial supply of the brain and the thyroid is very close.

Pole ligation, as first suggested by Stamm, would seem to be, theoretically, a more effective operation than arterial ligation, because it at once cuts off a part of the blood-supply to the gland, and a part of the return flow of both blood and lymph, presumably laden with toxic material. Moreover, Stamm's operation produces a greater anemia by virtue of the fact that it reduces the possibility of perfect and prompt reestablishment of the circulation by anastomosis. Ligation of the accompanying vein and artery at the same time should be, and I think is, more effective than ligation of the artery alone, but not so effective as the Stamm operation for the reason that the latter does all that the former does in way of curtailing the circulation of the blood in the thyroid and in addition puts out of commission permanently that portion of thyroid between the double ligations and occludes also the lymphatics of the ligated pole. It has not, however, been employed in a sufficient number of cases to enable one to speak accurately of the results obtained.

Partial thyroidectomy is the most effective treatment we have up to date. This, however, is a major operation and largely because of this fact patients are not subjected to this operation until other treatment has been tried and failed, and the disease has rendered the subject a substandard operative risk. Many of these patients must first be subjected to preliminary rest treatment coupled with one or more ligations before thyroidectomy can be done with reasonable safety. Again, in many of these patients, operated on late, myocardial and other changes which are permanent have already taken place.

Ochsner and Thompson name nine dangers of thyroidectomy: (1) anesthesia; (2) shock; (3) hemorrhage; (4) hyperthyroidism; (5) infection; (6) recurrent laryngeal nerve injury; (7) injury to parathyroid glands; (8) air embolism; (9) collapse of trachea and consequent asphyxia. To these should be added a tenth, namely, myxedema. It is quite plain that a simple, safe, and effective operation for hyperthyroidism is much to be desired. I believe that injection of boiling water into the gland will fulfil this desire.

While my experience with this method up to date is not sufficient to put it on a firm basis, yet it is enough, I think, to warrant this belief. The method was first used in dogs to demonstrate its safety and its efficiency in destroying normal thyroid tissue and goitrous tissue. These experiments were made for me by my former assistant, Dr. H. K. Mouser, now of Oakwood, Ohio. I have now treated four cases as follows:

Case 1.—An unmarried woman who was troubled with a goiter was referred to me by Dr. McCaskey in whose hands she had failed to improve under ordinary treatment, so he asked me to inject the goiter with hot water. She had a small bilobed goiter. Into each lobe was injected 40 minims of boiling water. She was asked to remain in bed for a few hours after which she was allowed to get up and be about. In a few days she left the hospital. One month after the operation, she came to the hospital for examination. I saw her a few moments after her arrival. Her pulse was 80, regular and of good volume. She expressed herself as feeling well and she had gained in weight. She said she was able to do her housework and was having no difficulty with her heart. Prior to the injection of hot water she complained much of palpitation of the heart and her pulse at that time varied from 80 to 120. She was to report to either Dr. McCaskey or me in case there was any relapse. Neither of us has heard from her.

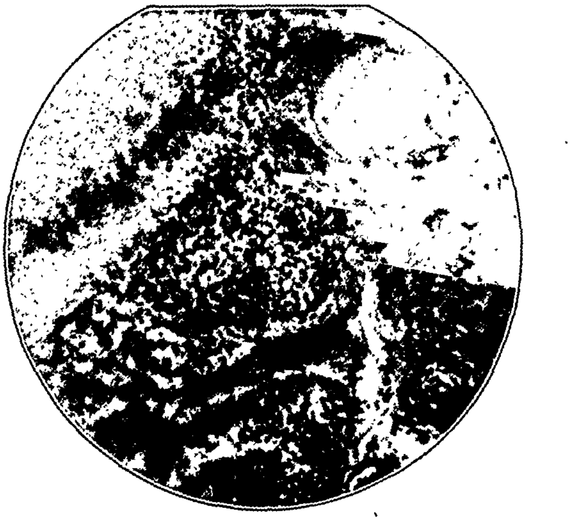

Fig. 1.—Case 4 (J. H.). Section after the injections of boiling water, showing connective tissue proliferation and compression of parenchyma. × 265.

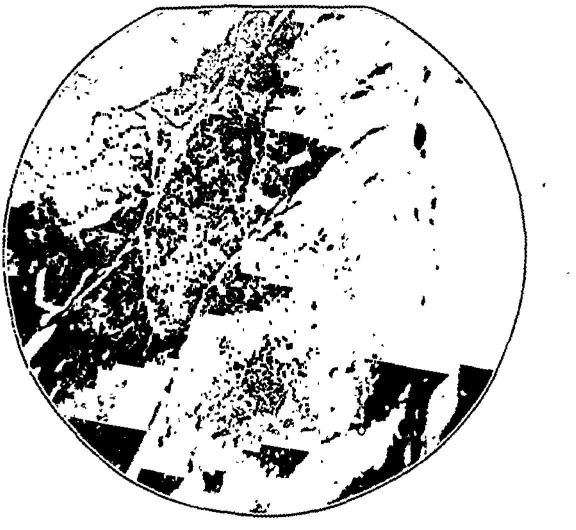

Fig. 2.—Same as Figure 1. ×55.

Case 2.—This was a mild case in a male patient referred by Dr. McCaskey. This patient went to work within seventy-two hours after one treatment and was still at work and symptomatically cured a few weeks ago, though he still has a small goiter.

Case 3.—*Patient.*—Mrs. Z., aged 48, married. Family history was negative. She had had typhoid twelve years ago; appendectomy and gall-bladder drainage two years ago. Menses came at 12, always irregular and painful. Patient came to the hospital on a cot on May 14, 1911, having been in bed two weeks. She complained of alternating constipation and diarrhea; pain and tenderness over whole abdomen especially the right half. She had a great deal of headache; was "short of breath" at times and had "dizzy spells"; was very nervous.

Examination.—The chest, abdomen and pelvis were negative, except for general abdominal tenderness. There was no rigidity. There was a perceptible bilobed goiter, larger on left; slight tremor. Examination of stools, urine and blood negative. The patient was kept in bed on light diet.

Treatment and Result.—After five days observation, during which time her pulse ranged from 68 to 84, the patient was given 5 grains of thyroid every four hours. After taking the thyroid for twenty-four hours her usual symptoms were exaggerated and in addition she complained of sleeplessness. The thyroid was continued, however, for six days when she complained of being "short of breath" and her pulse which was small and irregular, ran from 85 to 115. The thyroid was now stopped. Two days later the patient was feeling better and sat up for a few hours. While up her pulse was 108 and rather weak. Thyroidectin was given with negative results for three days, when her goiter was injected with 50 minims of boiling water. There was no reaction but she was kept in bed a few hours after the injection. Five days after the injection she was discharged. Dr. Drayer later reported her much improved and on July 12, forty-two days after the injection, she came to my office. The thyroid could not be seen, save on close observation; the pulse was regular, good volume, 80 per minute. There was no tremor. The patient said that she was attending to many of her duties and was much better in every way, though she felt the need of a little rest on the sofa almost every day.

Case 4.—*Patient.*—J. H., female, aged 27, single. Family and previous personal history unimportant. Her normal weight was 142 pounds. When I first saw her, she weighed 89 pounds and presented all the symptoms of exophthalmic goiter in the most aggravated form it has ever been my privilege to see, including exophthalmos, tachycardia, shortness of breath, trembling, diarrhea, nausea, insomnia and loss of appetite. She was in a reclining chair when this examination was made. The pulse was irregular and weak, from 160 to 180 per minute. She was admitted to Hope Hospital July 27, 1910.

History.—The following notes are taken from the records made at the hospital: The patient has been aware of an enlarged thyroid for five months, and has been aware for that time that she had exophthalmic goiter. For two years, however, she has been losing weight and during this period has suffered from severe headaches. The eyes have been prominent for four months. The patient has been under treatment for two months and for the past week has been taking thyroidectin; has not menstruated for six weeks. Examination after several hours in bed disclosed, in addition to the above, a dilated heart, a large firm thyroid with a pronounced thrill especially in lateral lobes. Neck measurement 15⅛ inches. Marked exophthalmos; eyes remain partially open during sleep, and cannot be closed entirely without strong effort. Urine normal. Small irregular dicrotic pulse 146 per minute, systolic pressure 180, diastolic 155. Temperature 99 3/5 F. Abdominal examination negative.

Treatment and Result.—The patient was given no treatment except injections of boiling water into the thyroid and rest in bed. For a few days only her diet was restricted on account of the diarrhea and nausea; after this she was fed liberally, including meats.

After the first two or three injections she was allowed to read in bed and do fancy work, and later to sit up, have visitors, have tub baths and visit other patients in the hospital whom she knew.

After the first two or three injections improvement was noted in her appetite, she slept better, was less nervous, breathed better, digestion seemed perfect and she no longer complained of palpitation. The pulse gradually improved in quality but did not diminish much in frequency. The thrill in the thyroid largely disappeared and there was some improvement in the exophthalmos. As she improved, she was given more liberty as to exercise, and was finally allowed to go home on Dec. 21, 1910, for the holidays, where she remained until Feb. 21, 1911. During her stay at home she took moderate exercise each day, went shopping and enjoyed the festivities of the season in a moderate way. Of course, on account of the condition of the heart, she was enjoined against exertion. She was weighed ten days after the third injection, when it was found she had gained four pounds. This gain in weight continued. When she left for the holiday vacation she weighed 120 pounds, and during her vacation she continued to improve notwithstanding the increased amount of exercise and excitement. She came back to the hospital Feb. 21, 1911, was given two more injections and discharged seventeen days later, weighing 145 pounds and expressing herself as "feeling fine." Dr. E. J. McOscar, who had seen the patient a number of times, was present at the last injection and remarked at the improvement, including the exophthalmos. I regret that I did not have photographs taken before the injections were begun, after they were stopped, and after the thyroidectomy to show the condition of the eyes and neck at these various stages of the treatment, but I hesitated to ask a sensitive girl for this privilege.

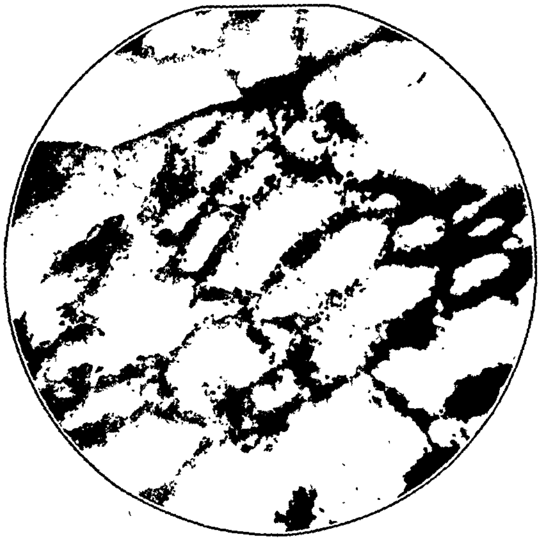

Fig. 3.—Section from gland of J. H., showing cytolysis. ×265.

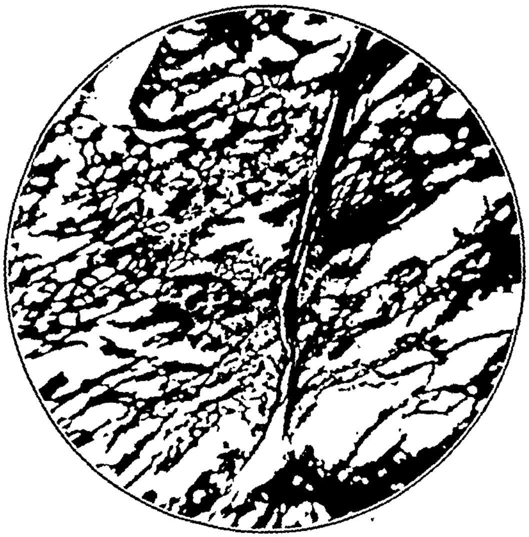

Fig. 4.—Same as Figure 3. ×55.

Notwithstanding her increase in weight, her neck had *diminished in circumference 0.5 inch.* She menstruated normally on March 10, 1911, which was the first menstrual flow she had had since June, 1910—nine months. She has menstruated regularly since.

In all, this patient had injected into her goiter 1,525 minims (a little more than 3⅛ ounces) of boiling water. There were nine seances, and at each seance from one to three injections were given. The largest amount injected at one point was 160 minims and the smallest 80 minims. The largest amount injected at one seance was 370 minims. After each injection, the patient was asked to remain perfectly quiet in bed for three or four hours. Inasmuch as the other patients whose goiters I had injected, before this patient was injected, had complained but little of the pain, the first injection was made in this case without any anesthesia of any kind. The patient complained quite loudly of the hot needle in the skin, and thereafter this was overcome by Schleich's infiltration-anesthesia at the points where the needle was to be thrust through the skin. No attempt was made to anesthetize anything but the skin because the heat is complained of only in the skin, and for the further reason that I believe that the infiltration of the gland tissue would diminish the effectiveness of the injection of hot water, or perhaps defeat its purpose entirely. *After the use of the Schleich, the only complaint made was a feeling of distention which at times caused pain to radiate to the back of the head and neck.* The excitement produced by the anticipation of the treatment, together with the pain, caused some acceleration of the pulse, and for a few hours after the treatment there was noted a rise in the temperature varying from ½ to 2 degrees F.

A minute eschar was produced at the site of each needle puncture but no permanent scar was produced. After each treatment the needle punctures were covered by pledgets of cotton saturated with alcohol and over these an ice-bag was placed for an hour or so after the patient was put to bed. When the patient was discharged, she still had pronounced exophthalmos, a good-sized goiter, a dilated heart and rapid pulse. The pulse counted for a week, at the time of her discharge, and averaged with a like count taken when she first entered the hospital and while she was at absolute and constant rest, showed a rate of 123 per minute in both counts. However, the count taken first represents the pulse while she was living a more or less active life as indicated by the foregoing report. Moreover, the pulse when discharged was regular, of better quality and no longer "went crazy" on the slightest excitement or movement as was the case when the patient began treatment.

I explained to the patient that I regarded her as cured in so far as a cure was possible, except that the tumor could be removed, inasmuch as I regarded the heart and eye conditions as manifestations of permanent tissue changes. She was told.

however, that she could have a thyroidectomy done with very little risk, in case she wanted to get rid of the deformity.

She concluded to rid herself of her "big neck" and for that purpose reentered the hospital May 14, 1911, and a thyroidectomy was done under ether anesthesia two days later. There was nothing worthy of note in the operation, save that there were numerous dense adhesions between the capsule and overlying fascia, due *no doubt to the injections of hot water*. The convalescence was uninterrupted until the end of the fourth day, when the patient began to develop a left hemiplegia, which became complete by the sixth day after the operation. She left the hospital thirty-six days after the operation with the wound healed, save a small point of granulation at the place of exit of the drains, able to walk and use the hand and arm, and with no trace of facial paralysis, though the arm and leg had not yet recovered entirely. Her breathing at this time was better from relief of pressure on the trachea. The exophthalmos and heart remained the same except that the action of the latter was improved as indicated by the improvement in the pulse, which was of fairly good quality and 100 per minute while sitting. The blood-pressure taken three days after the operation was 150 mm. maximum systolic, and 125 mm. maximum diastolic—a diminution in both diastolic and systolic pressure of 30 mm. as compared with the pressure before any treatment was instituted. Owing to an error or misunderstanding the blood-pressure was not recorded when the injection treatment was stopped.

I visited the patient at her home June 30, six weeks after the thyroidectomy, and found her much improved so far as the paralysis is concerned. There was also quite a little improvement in the heart's action and the exophthalmos. Pulse, sitting, 96 per minute.

I was mistaken in my opinion that the thyroidectomy would do her little or no good save to rid her of her deformity. She still had, after the injections, some overactive thyroid tissue which was removed at the operation. This is proved by the clinical symptoms and also by *microscopic appearance* of the removed gland.

The prevailing picture, from a number of sections made for me by Dr. Rhamy, the pathologist of Hope Hospital, is one of connective tissue proliferation with compression of the gland structure. With the high power some of the fields are almost entirely occupied by connective tissue (Figs. 1 and 2). Here and there, however, is found pronounced cytolysis which is present usually in the severest forms of Graves' disease (Figs. 3 and 4). Rarely may be found a field in which a few follicles present filled with unstained colloid and in which there is some epithelial proliferation indicating a hyperactive gland (Figs. 5 and 6).

An extremely interesting incident in Case 4 was the hemiplegia which, it will be recalled, came on gradually and became manifest first at the end of the fourth day after thyroidectomy. I have communicated with a number of surgeons with large experience in goiter work and none of them report a similar accident, nor can I find a like case in the literature. I am of the opinion that the hemiplegia was the result of cerebral hemorrhage due to arterial degeneration produced by the prolonged thyroid intoxication. In this opinion I am supported by Drs. G. W. McCaskey, A. J. Ochsner, G. W. Crile and C. H. Mayo, to whom I submitted a report of the case. It should be stated here that there could be found in the case no evidence of specific infection either inherited or acquired. In all I have injected boiling water into hyperactive goiters twenty-nine times, in four patients. From 40 to 160 minims were injected at each point. From one to three points were injected at each sitting. The largest amount injected at one sitting was 370 minims. Marked improvement promptly followed the injections in every case. No untoward results followed the injections in any case. As stated in the earlier part of this paper, the evidence thus far accumulated concerning this method of treating hyperthyroidism is not sufficient to base definite conclusions on, but it seems sufficient to warrant a more extended trial.

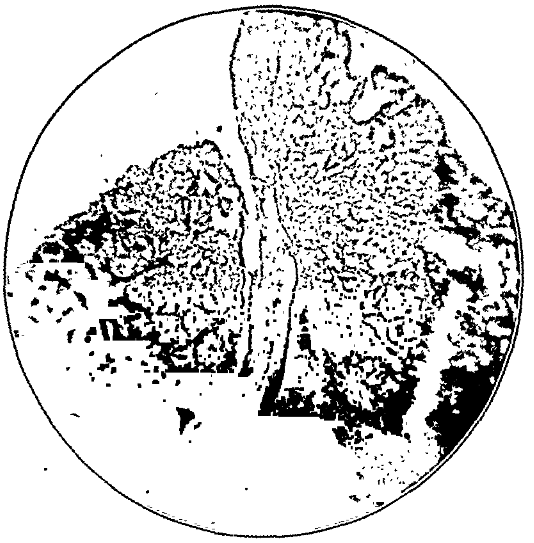

Fig. 5.—Gland of J. H., showing some hyperactive tissue after the injections of boiling water. ×55.

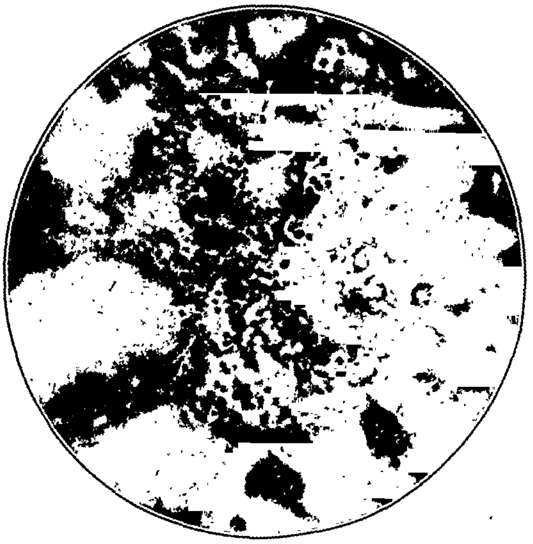

Fig. 6.—Same as Figure 5. ×265.

To me this treatment seems especially adapted to the very mild and the very severe cases. The mild cases, it seems, may be promptly cured and the severe ones, if not cured, rendered safe operative risks. It may be well to say that the injections must be made within the capsule, avoiding the immediate vicinity of the parathyroids and recurrent laryngeal nerves, and with the same general precautions that govern the boiling water treatment of angiomata.

207 West Wayne Street.

Long and Short Incisions.—Be not proud of an extremely short incision. A longer one, in reason, will heal as quickly, to an hour. Daylight is safer than fumbling in the dark.—Robert H. M. Dawbarn, in *Medical Record*.

ACCESSORY OR ABERRANT PANCREAS, WITH REPORT OF A CASE

BENJAMIN BROOKS FINKELSTONE, M.D.
BRIDGEPORT, CONN.

While an accessory pancreas is not very rare, still it is unusual enough to warrant the report of another case. This case, like Opie's, is an accessory pancreas entirely separated from the normal pancreas and adherent to the intestine, with numerous branches of the duct of Wirsung through the section, and it is, of course, natural to conclude that the main duct must have eventually opened into the intestine.

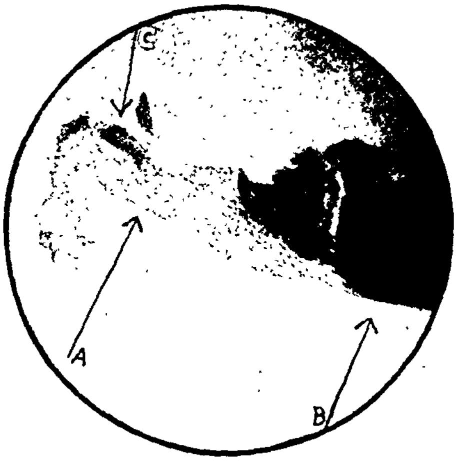

Fig. 1.—Relation of pancreas to the intestine. A, peritoneal surface of small intestine; B, aberrant pancreas inclosed by a slight capsule of connective tissue; C, mucous membrane of small intestine. Low-power lens.

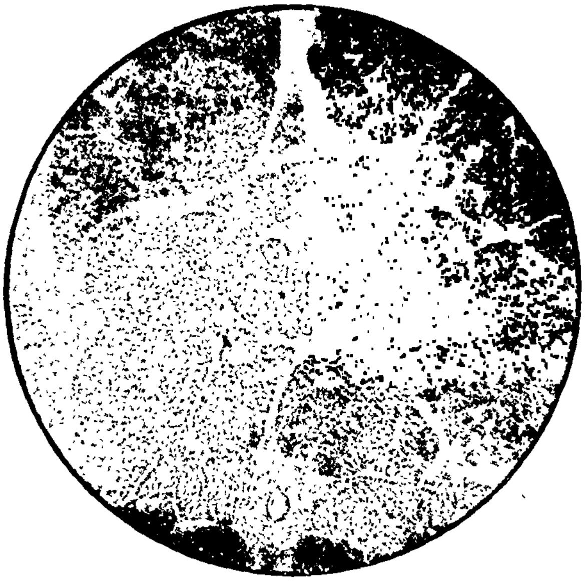

Fig. 2.—A section of pancreas showing general lobular arrangement of the organ.

Among the other cases reported are those of Klob, who demonstrated and cited two examples, viz., one embedded in the wall of the stomach, while in the other case it occupied the wall of the jejunum. Zenker collected six examples in which in every case the tumor had a duct entering the intestine through overlying mucosa. One was 16 cm., another 48 cm. One of Zenker's cases of special interest was an aberrant pancreas with a finger-shaped diverticulum of 5.5 cm. length, 44 cm. from the ileocecal valve. In these cases the coats of the accessory pancreas varied; i. e., microscopic examination showed tissue resembling pancreas, save that the interlobular tissue was frequently more abundant. Zenker diagnosed these tumors as embryonic rudiments. Luttille, in 200 autopsies, found five cases of aberrant pancreas. Wright described one example of the anomaly in which the tissue contained glandular tissue as well as islands of Langerhans. Hilly suggests that part of the primitive growth is separated from the remainder and later acquires an independent duct. In the *Index Medicus* of 1910, report of only one case was found—Nazari's case of aberrant pancreas in Meckel's diverticulum.

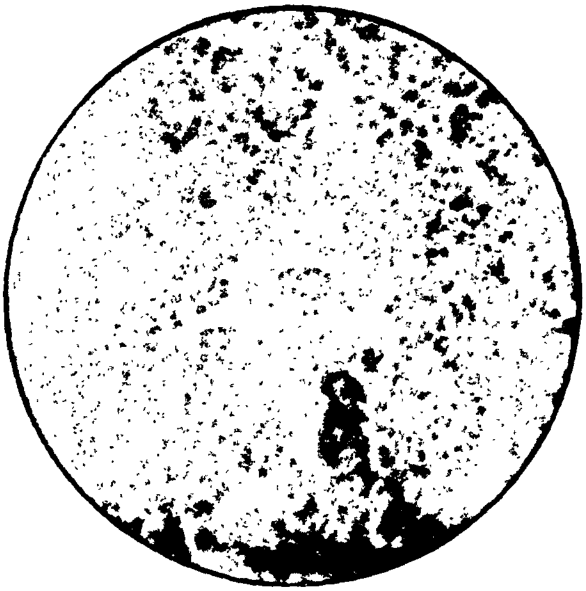

Fig. 3.—Same as Figure 2. High-power lens. Shows cellular structure of the organ.

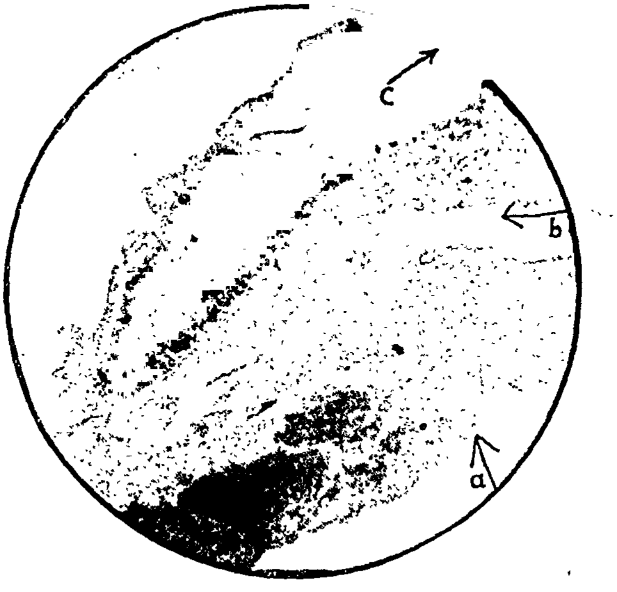

Fig. 4.—Section of intestine attached to the tumor; a, peritoneal surface of small intestine, showing longitudinal and circular muscular coats of intestine beneath; b, submucous coat with its bloodvessels and lymphatics; c, mucous membrane of small intestine.

REPORT OF CASE

History.—A well-developed, robust-looking Italian, male, aged 34, was brought into the hospital with a penetrating bullet wound of the abdomen. At autopsy all organs were found normal except the peritoneum, which showed extensive peritonitis. The intestines were matted together owing to the same condition. In the intestine 75 cm. from the pylorus two perforations were found, i. e., wound of entrance and wound of exit. About 15 cm. from the sigmoid flexure in the descending colon another perforation was seen. About 30 cm. from the pylorus a flat tumor mass was found in the intestinal wall, on its free border, opposite the mesentery. It was yellowish-gray, about the size of a quarter, markedly defined from the surrounding tissue, and slightly protruding into the lumen of the bowel. The tumor and part of the intestine for about 7 cm. on each side of it were removed and sent to the College of Physicians and Surgeons, Baltimore, for microscopic examination. Dr. William Royal Stokes reported the tumor to be an accessory pancreas, or, as some may call it, "aberrant or supernumerary pancreas." On section the organ had the same yellowish gray color as the pancreas. Sections of it showed that it was enclosed on one side by peritoneum and some muscular tissue, and on the other side by the submucous coat and the mucous membrane.

Dr. H. W. Stoner made the photomicrographs here shown (Figs. 1-4).

To the embryologist, physiologist, and pathologist this condition must surely be of some interest as to its correlation with the true pancreas in health and disease. Interesting queries can be evolved from such an anomaly, as, for instance, whether the presence of such a tumor could prevent diabetes in a patient in whom the islands of Langerhans of the true pancreas were affected. Or whether in a diseased condition of the pancreas, would the accessory pancreas undergo sympathetic degenerative changes or hypertrophy and take up the function of the true pancreas?

38 High Street.

A PLASTER SUPPORT FOR GASTROPTOSIS

S. D. DICE, M.D.
SARANAC LAKE, N. Y.

I have employed for some time with good results, a useful method of securing abdominal support, with zinc oxid adhesive plaster on moleskin. It is adapted to cases of gastroptosis and enteroptosis requiring some mechanical support in the various wasting diseases, especially chronic tuberculosis, in which digestive disturbances are so common and so important to correct.

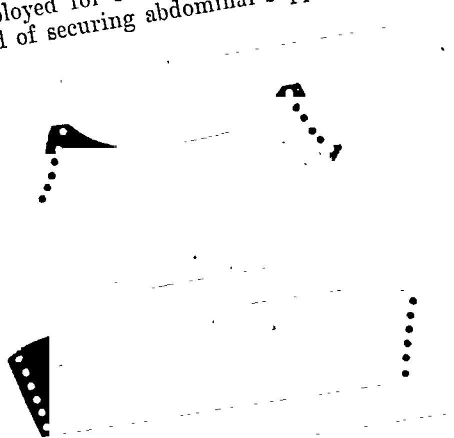

Fig. 1.—Pattern for plaster support for gastroptosis.

A patient in bed will often experience relief and benefit from the constant wearing of a light plaster support of the abdomen, although it is generally assumed, on theoretical grounds, that the sagging viscera require no support at such times. Elastic belts for abdominal support are often not comfortable or effective in the lean individual with a flat abdomen, even with an extra pad inserted under the belt, and holes cut in the elastic to ease up the pressure over the bony prominences at the sides. The plan herewith presented consists of a plaster pattern, with eyelets at the sides for lacing, as now generally used in surgical dressings, when it is desired to avoid a change of plaster at each dressing.

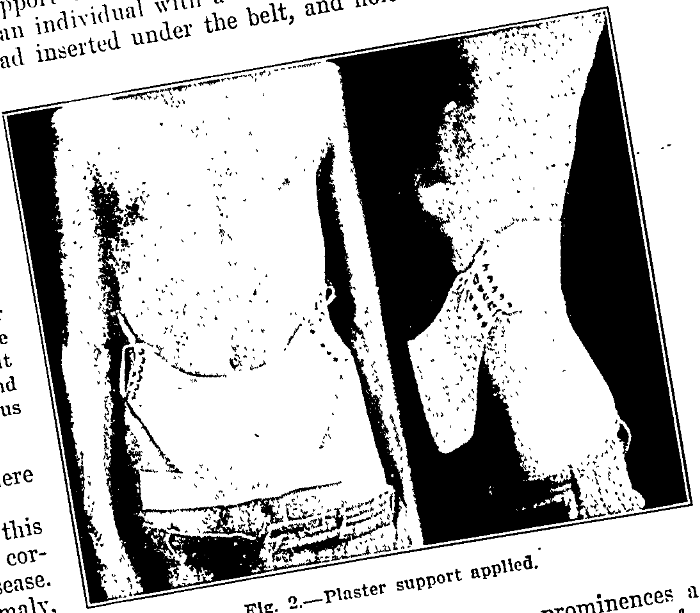

Fig. 2.—Plaster support applied.

The shape and size of the plaster apron will vary, of course, with each individual. The general outline is shown in Figure 1.

The plaster should extend from the umbilicus to the symphysis pubis, and in order to include the side tongues in the same piece with the apron, the 7-inch wide plaster will be necessary. (Fig. 2.)

The strap for the back should be 3½ inches wide, cut straight, or slightly curved toward the ends; the length must be about 3 inches shorter than the actual measurement, leaving the space of 1½ inches on each side, for the uplift traction on apron ends and lacing. (Fig. 2.)

The edge of the plaster along which the holes are punched for eyelets should be faced underneath with an extra narrow plaster strip, so as to make a double thickness to give the eyelets a better staying grip. Less traction on the plaster will be required, when it is laced up, if the patient assumes the recumbent position, which will relax the abdominal muscles and allow the viscera to lie in a more natural position.

The advantages claimed for this pattern and lacing are evident:

1. Quick relief is afforded by unlacing, when the abdomen distends with gas.
2. The single thickness of plaster over the abdomen obviates the necessity for an overlapped edge which often causes a sore ridge on the skin, in the methods requiring a three- or four-piece pattern.
3. There is a small economy of plaster over other methods.

4. It permits easy removal for a tub bath, and a reapplication of the same plaster by the patient, provided (a) that the skin is cleansed of bits of adhesive residue, with turpentine, which should be used before wetting the skin, and removed at once with soap and hot water to avoid irritation; and (b) that the abdomen is shaved clean of new hair growth after every bath.

When the plaster is reapplied to the skin, if it does not adhere readily with the aid of a hot-water bag over the abdomen, then a strip of fresh plaster may be strapped across the lower abdomen temporarily (as shown in Fig. 2 on the left) allowing one-half to lap over lower edge of apron, the other half to extend lower on the skin. After fixation is assured, this temporary strip may be taken off.

The insertion of the eyelets at the sides will be found convenient when the abdomen has been strapped with plaster according to Dr. Rose's method or any other.

104 Park Avenue.

A TABLE FOR EYE, EAR, NOSE AND THROAT WORK

L. W. DEAN, M.D.
IOWA CITY, IA.

This table was designed with the view of securing one that would serve equally well for a cataract operation, brain surgery, mastoid operations, throat work, laryngotomy or bronchoscopy. The table has now been in use for one year and has filled the requirements for this work. The table can be raised to a height of 41 inches and lowered to 31 inches. This allows the operator to work standing or sitting. The table may be tilted to any desired position. This can be done very rapidly if difficulty with anesthesia or other conditions indicate the need for a change of position.

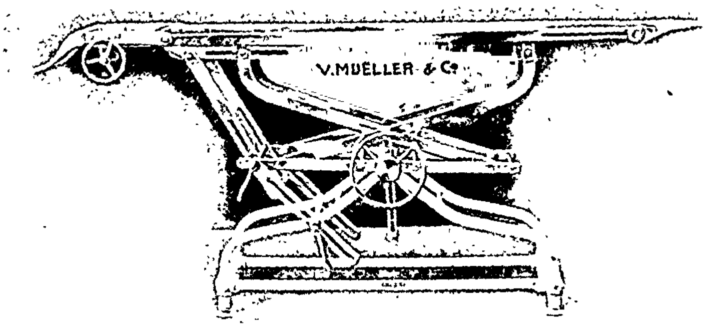

Fig. 1.—A table for eye, ear, nose and throat work, shown with the top of table horizontal.

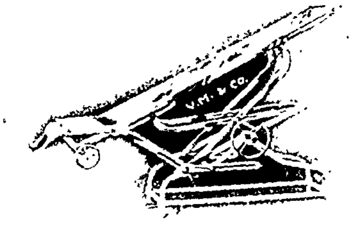

Fig. 2.—View of table with head lowered.

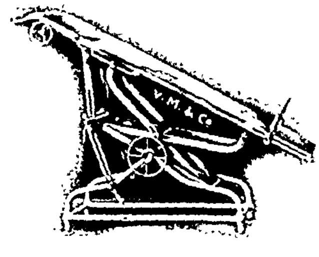

Fig. 3.—View of table with head elevated.

The head-piece of the table may be elevated to any desired position. This advantage, together with the tilting of the table, greatly diminishes the work in bronchoscopy and laryngectomy. In bronchoscopy it is not necessary to have an exceedingly well-trained assistant to hold the head.

The table is firm in every position and there is but slight opportunity for wear.

MITRAL STENOSIS OF TRAUMATIC ORIGIN *

DAVID RIESMAN, M.D.
PHILADELPHIA

History.—N. H., an able-bodied married man of thirty-five, a musician by profession, was returning from a playing engagement one morning at 4 o'clock in the month of August, 1910. Suddenly, when about three squares from home he was set on by foot-pads. Terror-stricken, he ran as fast as his legs would carry him, grasping tightly in one hand his violin and in the other a heavy box containing his music. He arrived at his home utterly spent and exhausted, and with an intense feeling of choking and suffocation. For half an hour he had to stand up and struggle for breath. Gradually the sense of suffocation lessened, its place being taken by a distressing palpitation. There was no real pain. Later in the day the patient consulted a physician, who told him there was nothing serious the matter with him, and that he would soon be well again. By the following day, the palpitation had ceased. Two or three months later it returned, and has troubled the patient intermittently ever since. It caused him to consult me March 21, 1911.

Examination.—I found a presystolic thrill in the apex region, a loud churning presystolic mitral murmur, accentuation of the second pulmonic sound, and, on a later examination, a doubling of the second sound at the base of the heart.

The man's history is entirely negative; aside from an attack of lumbago some years ago, he remembers no illness whatsoever. His mother died at 55 years of age, of a cause unknown to him. His father is still living. Prior to the episode that I have related, he was in every sense, so far as he knew, sound and well.

How shall we interpret this case? I am well aware of the difficulty of proving a given case of heart disease to be the result of trauma. A cursory glance over the literature is not particularly informing, except that it leaves little room for doubt as to the fact that injury and strain can produce functional and muscular disease of the heart. With respect to endocardial, particularly valvular, lesions, the testimony is more questionable. In accidents such as crushes or severe contusions, hemorrhages and tears have been found in the valvular and mural endocardium. Bernstein,[1] who, in 1896, collected all the cases of heart disease of traumatic origin recorded—a total of one hundred and twenty-four—found only a few instances of involvement of the valves; none of which corresponds to the case here reported. There are in his list a few cases of mitral stenosis that followed and seemed to be due to violent blows, falls or contusions. A few additional examples are found in Richard Stern's valuable monograph, "Die traumatische Entstehung innerer Krankheiten." Külbs,[2] in a series of cruel and quite unnecessary experiments, succeeded in producing traumatic valvular lesions in dogs—in seventeen out of twenty-three cases. These lesions consisted chiefly in hemorrhages into the tissues of the valve and the adjacent endocardium, with intimations of a reactive inflammation at the margin of the extravasations.

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* Read before the Section in Medicine of the College of Physicians of Philadelphia, May 22, 1911.

[1] Ztschr. f. klin. Med., 1896, xxix, 519.

[2] Verhandl. d. deutsch. path. Gesellsch., 1908, xii, 172.

A small number of instances of rupture of valves following violent strain are on record, but it seems that the majority are cases in which the valves had been previously diseased. For reasons easily understood, the aortic valve is in such instances the one usually affected.

In the case I have reported it might be said that the man had had an old endocarditis, and that the violent strain did nothing more than render a diseased but competent heart slightly insufficient. I am aware of the fact that mitral stenosis is the one valvular lesion in which the antecedent history most often defaults. In probably 30 or 40 per cent. of the cases, no cause whatever can be found. In my experience, however, this is true chiefly in the female sex. Indeed, mitral stenosis is very much like chlorosis a disease of young women. In the mitral stenosis of the male sex it is much more common to find a definite etiologic factor in the history.

I believe that the endocardial lesion in my case was the direct consequence of the violent strain on the heart caused by the man's running, heavily laden and at utmost speed, from his pursuers. As to the primary lesion, it was either a rupture of one of the more important chordæ tendineæ or, what is more likely, a hemorrhage into the valvular tissues, with subsequent organization and contraction.

1715 Spruce Street.

MALTA FEVER IN TEXAS

A REPORT ON THE SERUM REACTION OF ONE HUNDRED TWENTY-EIGHT GOATS IN EDWARDS COUNTY

FOURTH PAPER

ERNEST R. GENTRY, A.B., M.D., and THOMAS L. FERENBAUGH, A.B., M.D.
Lieutenants, Medical Corps, U. S. Army
FORT LEAVENWORTH, KANSAS

In our last communication,[1] we reported a series of agglutination tests on twenty-three goats, eight of which gave a positive reaction with the *Micrococcus melitensis.* In this paper also we reported seven additional cases of Malta fever, three of which had occurred in the Nueces River cañon, in Edwards County, the principal goat raising section of the state. In this county there are approximately 175,000 goats, the individual herds ranging from 500 to 6,000 goats each. These herds consist almost entirely of finely bred Angora goats and are raised for the mohair which they produce. A few Spanish and Maltese goats are still to be found in each herd. The pure bred Angoras were first imported in 1867 from Asia Minor, by Harris. The more recent importations have been almost exclusively from South Africa.

In view of the fact that the disease has been prevalent in this county for many years, especially in the Nueces River cañon, it was thought desirable to make some examination of the goats in that section. The large size of the herds made a thorough examination of each herd impracticable and therefore a certain number of goats were taken from the several herds available. Only female goats were examined, in order to secure milk specimens, but at this season of the year, even if goats were specially selected, very little milk could be secured.

A blood-specimen was obtained in a Wright's capsule from the ear of each goat for the specific agglutination test with *M. melitensis,* all tests being controlled with serum from normal goats. Wherever obtainable, milk specimens were taken from those goats giving a positive agglutination test, centrifugalized and the sediment plated out on glucose-nutrose-litmus-agar plates, in the hope of isolating the organism from the milk.

The following results were secured from the examination of 128 goats in the vicinity of Barksdale, Texas

Herd 1.—About 1,500 goats in herd; 80 goats were examined and 16 gave a positive test with the *M. melitensis* at a dilution of 1 in 20, one giving an agglutination at 1 in 40 in thirty minutes.

Herd 2.—About 500 goats in herd; 12 goats examined; 3 gave good clumping at 1 in 10 dilution, one going also to 1 in 20 in thirty minutes.

Herd 3.—About 1,500 goats in herd; 13 goats examined; 2 gave strong reaction with *M. melitensis* at 1 in 20 dilution in thirty minutes.

Herd 4.—About 1,000 goats in herd; 23 goats examined; 4 gave positive agglutination with *M. melitensis* at 1 in 20 dilution, one going also to 1 in 40 in thirty minutes.

Thus twenty-five out of a total of 128 goats examined (19.4 per cent.) gave a positive agglutination test for *M. melitensis.* Only eight of these had milk and they only in small quantity. Specimens of milk plated out on glucose-nutrose-litmus-agar gave a negative result for *M. melitensis* in each instance.

SUMMARY OF WORK ON MALTA FEVER IN TEXAS

In concluding this series of investigations on the subject of Malta fever in Texas, we have, by blood cultures and agglutinations, established the fact that the disease exists endemically in the goat raising sections of Texas.

We believe that the infecting organism, the *M. melitensis,* is present in the goats of this section, this conclusion being based on the following observation:

1. About 20 per cent. of all goats examined (151) have given a positive agglutination test at 1 in 20 dilution, three going also to 1 in 40 in thirty minutes.
2. All cases reported by us gave a history of association with the goat raising industry and six gave a history of drinking goat milk.
3. A large number of these goats are direct descendants of goats imported from Asia Minor and South Africa where the disease has been proved to exist in goats.[3]

While many of the patients give a history of drinking goat milk, the factor of dust infection must be considered, particularly in the Nueces River cañon, where goat milk is rarely used, but where the houses are surrounded by the dusty bedding-grounds of the goats and the disease is not infrequent. At this time of year (September) conditions are unfavorable for the isolation of *M. melitensis* from goats' milk, and we believe a statistical study of Malta fever in Texas in man and goats, to be of value, should be made in the months of March, April, May and June. This period embraces the kidding season and the time when the goats are in full milk. After this time the goats rapidly become dry. The great majority of cases of Malta fever among the ranchmen are contracted also during this season, when the whole family practically lives with the goat herds, caring for the kids and teaching them to suckle.

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[1] The Journal A. M. A., Sept. 23, 1911, page 1045.

[3] Strachan, P. D.: Undulant Fever in South Africa, Jour. Roy. Army Med. Corps, July, 1907, ix, 83. Also Strachan, P. D., and Birt, C.: Malta Fever in South Africa, Jour. Roy. Army Med. Corps, August, 1909, xiii, 153.

CONTROLLING HYDROPHOBIA IN THE HUMAN SUBJECT *

A. M. STIMSON, M.D.
P. A. Surgeon, U. S. Public Health and Marine-Hospital Service
WASHINGTON, D. C.

In considering methods of preventing hydrophobia in man there are certain factors in the rationale of the disease which must be constantly borne in mind. The following are some of the most important of these:

1. Although all mammals are susceptible to rabies, it is perpetuated in nature almost exclusively by the domestic dog, but also to a small extent and in a few localities by wild animals of the dog family and by skunks.
2. Human infection occurs, in the vast preponderance of cases, directly from the rabid dog through bites, and in the remaining minority of cases from animals which in turn have received their infection from dogs.
3. Rabies is an infectious disease, transmissible by bites from infected to healthy animals, and by other methods of inoculation with the specific virus. It never originates spontaneously or as a result of starvation, bad food or water, excitement, fear, or other like causes.
4. Statistics from the most diverse parts of the world show that rabies is not confined to, and not even markedly prevalent during, any particular season of the year. It may flourish at any season.
5. All parts of the world are potentially capable of harboring rabies. Climatic influences do not operate to its extinction.
6. Under the present conditions of communication in the United States, physical barriers are insufficient to prevent the introduction of rabies into any state or territory.
7. Animals may be suffering from rabies, and their saliva may be virulent for some days, before symptoms become sufficiently marked to excite notice.
8. Dogs suffering from furious rabies often have a tendency to run long distances, twenty-five miles or more being reported, often inoculating large numbers of other animals and persons *en route*, and carrying infection into previously rabies-free regions.
9. Animals killed early in the course of rabies may fail to show unmistakable evidence of the disease on microscopic examination, and in this manner the diagnosis may be indefinitely delayed pending the result of inoculation tests.
10. By means of the Pasteur treatment, promptly administered, immunity may be induced in exposed persons to the extent that a mortality of no more than 1 per cent. need be expected from rabid dog bites of the average severity.

Measures based on these premises and designed to prevent rabies in man may be considered under two headings: (A) those directed against the disease in animals; (B) those which provide for the administration of the Pasteur treatment to exposed persons.

A. MEASURES AGAINST THE DISEASE IN ANIMALS

Since the dog is the perpetuator of rabies, eradicative measures must apply first to rabies in dogs. When wild animals perpetuate the disease in a given locality, measures such as are commonly taken against noxious wild animals must be enforced.

Since any section of the country, at any season of the year is potentially capable of harboring rabies, if it be introduced, there are certain measures which should be in operation everywhere and at all seasons of the year. The object of these measures is to reduce the total dog population by eliminating the ownerless uncared-for element and to restrict it to animals owned by masters who have a sense of the value of their animals and of the responsibility of their ownership, and an intelligent interest in their welfare.

I. PERMANENT MEASURES

1. Destruction of ownerless dogs. This implies in cities the maintenance of an official dog-catching force and a pound for the detention and humane destruction of dogs, cats and other animals. In certain rural districts it is feasible to destroy the *animals immediately by shooting.*
2. Legal definition of an ownerless dog as one not provided with a license tag of the current license period.
3. Imposition of a license fee on all dogs which are owned, harbored or cared for by any person, and a license tag issued to be worn by the dog. This tag bears a serial number corresponding to the entry in the official register, which contains the name and address of the owner and a description of the dog. The license fee should be sufficiently large to accomplish a reduction of the number of dogs kept, to impress a sense of value, and should be higher for unspayed females.
4. Rendering dog owners legally responsible for damage inflicted by their dogs. In many sections there seems to be *no redress for such damage save such as is obtained by protracted legal action.* A stray horse peacefully grazing by the roadside would be promptly taken to the pound and held for fines, while there would be no penalty for allowing a dog to run loose annoying or injuring stock and poultry and possibly contracting and transmitting rabies.
5. Education of the dog-owning public in matters relating to the care of dogs as affecting the spread of communicable diseases, especially rabies. This measure is believed to be the most important adjunct or preliminary to the other measures, without which it will be impossible to effect any lasting benefit. The media through which it may be effected are: the press, both public and official; lectures, talks and demonstrations by representatives of the health and veterinary boards; object-lessons in the course of epizootics; the public schools and possibly the pulpit. There is evidence that the average layman does not profit by bulletins and tracts to the desired extent unless he finds them practically and perenially useful, and above all, understandable. They arrive in the waste-basket without even a sojourn in the pigeonhole. For this reason it is urged that information intended to instruct in the methods of preventing rabies be administered in a palatable menstruum, a "Dog-Lover's Handbook" with illustrations, for instance. There should be chapters on the preferred and valuable breeds of dogs, on food and housing, how to build a kennel, what to do for a sick dog when a veterinarian is not immediately available, etc.; but the truths should not be lost sight of, that the majority of dogs are luxuries rather than necessities; that a dog worth having is worth taking good care of; that it is to the personal interest of the dog-owner as well as his duty to avoid the spread of disease by his animals. The essential information concerning rabies should be dealt with in a separate chapter and at appropriate points throughout the bulletin.
6. The organization of a system of securing reliable information concerning the presence of rabies in all portions of the state or territory. The disease should be made reportable, as should also suspected cases, and penalties imposed for non-compliance.
7. State or territorial quarantine against importation of dogs. A measure obviously to be adopted only after a consideration of internal conditions and interstate relations.

II. SPECIAL AND TEMPORARY MEASURES

Under this caption are considered those measures which are to be applied with discrimination, *pro re nata.* They are best administered by a central authority free from local affiliations and prejudices, but well informed through its agents on local conditions. Their selection, duration and area of application are to be decided on after consideration of the specific case.

1. Muzzling.—This measure should be applied whenever an outbreak of rabies occurs, and maintained sufficiently long after the cessation of new cases to warrant a feeling of security that the outbreak has been eradicated and is not merely in abeyance. The only justification for short periods of muzzling is the uncertain one that they may be applied with less opposition and greater thoroughness. It would appear that the greater the area included in an ordinance, the less time it will be necessary to maintain it. Basing the necessary period for eradication on the possible incubation period in dogs, a minimum period of six months and a maximum of one year would be necessitated. The area in which an ordinance is operative should exceed that of the known extent of the outbreak in order to surround it with a safety zone. Muzzling ordinances for certain months or seasons of the year, when based on a supposed seasonal prevalence, are in the face of the facts, illogical. Ordinances should prescribe that muzzles be constructed of metal, should prevent biting, should be humane, and should be fitted to the animal.

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* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

2. *Restraint of Dogs.*—This measure may be employed as an alternative or as an adjuvant to muzzling. If well enforced it should be effectual in preventing the spread of infection, but it does not relieve the owner of an already infected dog from the danger of infection. It places the responsibility for an infection in the family or personnel of a household, on the owner of the dog, but does not remove the possibility of infection. Restraint means fastening up with a chain (not a rope), or confinement within an enclosure from which the animal cannot escape. Since it is the custom of unscrupulous persons to liberate their dogs for exercise after nightfall in violation of an ordinance of restraint, special provision against this infraction is necessary. The dogs may be exercised while muzzled, and preferably for their own protection led in leash. Leading in leash unmuzzled is so easy of evasion that it is not to be recommended. The period and area of restraint ordinances are governed by the same considerations as in the case of muzzling.

3. *Disposition of Supposedly Infected Animals.*—Animals which have been subjected to bites by other animals which have rabies or in which there is good ground for suspecting it should be immediately killed or quarantined. In the case of dogs and cats it is wisest that they be destroyed. Live stock and other animals of especial value may, at the discretion of the authorities, be subjected to isolation or quarantine under official supervision, for a period of not less than six months, the expenses being borne by the owner.

4. *Disinfection.*—The necessity for disinfection of objects soiled by the saliva and other discharges of rabid animals does not appear to be pressing, but since a possibility of danger from such objects is conceivable, and a chance of infection arising in this manner would bring great discredit on the authorities, it is advisable to provide for disinfection. This may be carried out by burning the litter of stables, kennels, etc., subjecting more valuable objects to the action of boiling water, steam or chemical disinfectants, and washing down walls and floors which may have been soiled with disinfectant solutions, or a fresh coat of whitewash. The commercial use of any part, including the hide, of an animal killed for rabies must be prohibited unless such parts have previously been rendered innocuous to the satisfaction of the authorities. Proper disposal of carcasses must be enjoined.

5. *Compulsory Notification of New Cases of Rabies and Animals Bitten.*—By the enforcement of this rule new foci of infection may early be recognized. When temporary measures are to be applied in a territory, the public must be informed through the newspapers, by special printed announcements, by verbal notification by a representative of the authorities, or by conspicuous posters. This notification should comprise a statement of the local prevalence of the disease and the danger to human and animal life involved, a statement of the exact area and time period of application, the provisions of the ordinance, a quotation of the authority and the penalties for non-compliance.

A supplementary note as to sources of information and as to the examination of suspected material would be in the direction of increased efficiency.

6. *Local Quarantine.*—The central office should have authority to impose a quarantine on infected towns, cities, counties, etc., making it illegal for any person to remove dogs or other animals capable of transmitting rabies from the infected district except under official certificate that they are free from rabies infection.

B. *PASTEUR TREATMENT*

There are now some twenty institutions in the United States where the virus for the Pasteur treatment or one of its modifications is prepared and administered. Some are under private management and others are under state or municipal auspices. The Public Health and Marine-Hospital Service through the Hygienic Laboratory, Washington, D. C., is prepared to furnish gratis on request, glycerinated virus to state health authorities having the necessary laboratory facilities.

Because of the saving of time and expense permitted by it, the treatment of patients at or near their homes is preferable to treatment at a central station which may be far distant. This has been made practicable by the use of glycerinated virus, which is sufficiently stable to permit of shipment by mail or express. It has been used in two forms; that of an emulsion containing glycerin as a preservative, and in the form of the cord itself cut into pieces suitable for a dose, and bottled in glycerin. The latter would appear to be the more stable form but necessitates emulsification under aseptic conditions at the place where it is used.

The preparation of the virus necessitates the services of a bacteriologist with special training and experience in connection with rabies, and such skilled or unskilled assistants as may be needed, according to the amount of work. The equipment consists of a plant for maintaining an adequate supply of rabbits, rooms for the preparation and administration of the virus, two incubators, an ice-chest or refrigerator, and various instruments, glassware, and chemicals. The examination of suspected material for diagnosis may conveniently be included in the duties of the director. The ethics of a state's supplying the virus to needy persons would appear to be the same as in the case of diphtheria antitoxin.

THE MECHANISM FOR CARRYING OUT THE FOREGOING MEASURES

Each state and territory should vest authority for the control of rabies in a central office. Such powers are now commonly entrusted to the state board of health or the state agricultural department or corresponding bodies, or divided as regards certain functions or districts (municipal or rural) between those agencies concerned with human health, and those pertaining to the welfare of domestic animals. The most effective work in the control of the disease will be secured from that agency which has or can develop the best organization of its personnel, and which has competent representatives in the greatest number of localities throughout the jurisdiction. The centralization of authority is necessary for the coordination of the work and the securing of uniformity. Otherwise certain delinquent communities will habitually harbor rabies, to the detriment and discouragement of the neighbors.

The functions of the central office will be as follows:

1. To collect information regarding the prevalence and distribution of rabies in the lower animals and in man.
2. To publish for public distribution information concerning rabies.
3. To investigate reported cases and epizootics.
4. To maintain permanent and apply temporary measures of control or to supervise the carrying out of these measures by local authorities.
5. To cooperate with corresponding authorities in contiguous states.

6. To provide a laboratory for the examination of suspected material.
7. To provide for the administration of preventive inoculations to exposed persons.

Each outbreak of rabies will naturally present peculiar features calling for the exercise of judgment as to the methods to be employed, but for the sake of illustration of the workings of the central office, a hypothetical outbreak will be assumed and described. It is assumed that a central office, say the state board of health, is responsible and authorized for the control of rabies, and that it has put in force the permanent measures previously described; that is, it has instructed the local health officers to report suspected cases, has attempted to reduce the ownerless dog population, has placed information concerning rabies at the disposal of the dog-owning public, and has enforced the license fee. Since conditions in large cities will be attended to by the municipal authorities under the supervision of the state authority, a rural outbreak will be supposed.

A health officer in a small town reports that a dog coming from a neighboring village has entered the town exhibiting the symptoms of rabies, has bitten other dogs and stock and several persons; that the dog has subsequently died and that the head of the animal is being sent for examination. The state office will subject the dog's head to laboratory examination, and in the event of a positive result, will order such temporary measures as in its judgment seem indicated, advising the bitten persons to take preventive inoculations and informing them how this may be arranged. It will also communicate with its representatives in the towns adjacent to the infection, and in case the outbreak is on or near the state line, with the corresponding office in the contiguous state. In case the local representative is obviously unable to cope with the situation as it develops, a special agent must be sent to take charge.

A plan which is giving promising results in at least one state where the control of rabies is entrusted to the veterinary authorities, includes the making of a temporary agent of the local veterinarian, with per diem compensation. This agent is charged with the duty of reporting on local conditions, and carrying out such measures as are prescribed. When necessary, a special agent is sent from headquarters to destroy stray unmuzzled dogs, which he accomplishes with great thoroughness with a shotgun. It is not unusual for communities to request voluntarily that this agent be sent to clean out the stray dogs from the town, even when there is no rabies present. Unfortunately quite the opposite attitude is to be expected in many parts of our country.

DIFFICULTIES AND CAUSES OF UNSUCCESS

Aside from inadequacies in the central administration arising from lack of legal authority, lack of funds, the pressure of more important duties, or even from indifference or incompetence, there are other obstacles which render the eradication of rabies a matter of great difficulty, and this in spite of the fact that the perpetuation of the disease is due to one isolated fact, namely, that dogs will bite, and that its prevention is in essence comprised in a single measure, the prevention of their biting. The mental attitude of the average dog-owner is the greatest obstacle to success. Ignorance is the chief factor determining this attitude, and it should be a special aim of the authorities to dispel this ignorance. A second factor is indolence or indifference, for which salutary stimulation is indicated. A third factor is personal interest of the dog-owner to comply with and support measures against rabies.

A second great obstacle has arisen from a lack of that uniformity and correlation in the methods employed in adjoining territories, which can only be secured by an impartial central authority for each state and by interstate cooperation. Thus, no matter how conscientiously and effectually one community may have dealt with its rabies problem, the constant reintroduction of infection from a dilatory neighbor is sure in the end to discourage and demoralize. In this connection it is instructive to recall that in England it was only after the antirabies operations were entrusted to a central authority that a permanent amelioration and finally complete eradication was effected.

ABSTRACT OF DISCUSSION

Dr. Calvin S. White, Portland, Ore.: We have during the last year had rabies for the first time in the northwestern part of our state, where it is very sparsely settled and where the sheep industry is the only one. The sheep men cannot afford to destroy their dogs; and they tell me that the dog that is muzzled will not work. We have had it among the coyotes, and several that have been sent to our laboratory have shown the Negri bodies in large quantities. There have been only two cases that I know of in which human beings have been bitten, one by a coyote and the other by a dog; in both animals we were able to establish the presence of the Negri bodies; and we used Pasteur treatment on both the patients. How are we going to disinfect the saliva of a dog? The infection is in the whole of the animals that we examined: not only in the saliva but in the teeth and in the humors of the eye, and it seems to me it would be out of the question to do it. I would like, also, to know how a certificate could be given that a dog was free from rabies when we found that the period of incubation varied so before the disease developed. I don't see how any one's certificate could possibly be of any value, if the dog had ever been inoculated.

Dr. Norman Bridge: I don't know any way except keeping the animals long enough in quarantine to be sure. I presume that would cover it.

A CASE OF ANGIOKERATOMA

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The article on angiokeratoma by Dr. Richard L. Sutton[1] suggests the report of the following case.

History.—Patient, P. M. K., a man aged 61, complains of slight ache of testicles. He has followed occupation of engineer previous to his admittance to hospital, and has always enjoyed excellent health. The cutaneous history of the family is negative. The patient's circulation has been good till recently when symptoms of heart involvement developed. There is a very vague history of chilblains. The patient was hit by a baseball in left testicle, twenty-six years ago, immediate swelling of testicle following, however, with very little discomfort at the time. Swelling has persisted since, fluctuating in size from time to time but unaccompanied with any noticeable symptoms except a slight ache. The superficial capillaries have been prominent for an indefinite period of time, the patient first noticing the skin lesion about two years ago. The tumors increased in numbers from time to time and the patient has noticed that a few of them have slowly disappeared.

Examination.—The patient is a well-built man, well nourished, 5 feet and 9 inches in height, and weighs 160 pounds. The skin on the hands and feet is smooth and unmarked and there are no lesions on the body. The superficial capillaries of the calf of the leg and lower portion of the abdomen show a tendency toward varicosity. Patient has some edema of the ankles. The scrotum is enlarged on the left side, a chronic hydrocele being present. The integument covering it is roughened and somewhat boggy to the touch. The superficial scrotal veins on left side are dilated and tortuous, and distributed along their course are a goodly number of hard, purplish, smooth, elevated nodules varying from the size of a grain of wheat to that of the head of a pin. On puncture of the larger ones a small drop of serous blood exudes. Some of the nodules are small and in process of development, while others are of a brownish red color and undergoing degeneration. The patient gives a history of chronic venous obstruction preceding the development of the angiokeratoma, the vascular tumors developing as a result of the increased blood-pressure in the superficial capillaries, the walls of which being insufficiently supported, allowing their formation. The chilblain history in this case being so vague, it, as the underlying cause of the vascular lesion may be ruled out.

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[1] Sutton, R. L.: The Journal, July 15, 1911, p. 189.

"SINGER'S NODULE" (CHORDITIS NODOSA) REMOVED BY VOCAL TREATMENT

F. VICTOR LAURENT, M.D.
PITTSBURGH

While these nodes usually occur in singers and public speakers, the following case will show that habitual misuse of the voice by anyone may cause this condition.

While faulty breathing is a factor, the breathing of itself will not develop nodes, the prime factors being overtension of the intrinsic and extrinsic muscles of the larynx which causes the *coup de la glotte* or stroke of the glottis, which, Garcia used to say, is death to the voice.

Kyle says that nodes are usually located near the junction of the anterior and middle thirds of the cords. My experience has proved just the opposite and I generally expect to find them near the junction of the middle and posterior thirds, for the following reason:

When the voice is used properly and the upper register is attempted, the posterior thirds of the cords are closely approximated and not in use and the larynx rises to a higher position, the extrinsic muscles being relaxed. Now, when the pitch of the voice is raised and the larynx is held in the same position as when speaking or singing in the chest or medium register, there is overtension of the extrinsic muscles and the arytenoideus muscle, which causes the cords to vibrate throughout their entire length, and as the posterior thirds are closely approximated, the super-attrition which causes the nodes to develop occurs just a little anterior to this point.

The patient, Mrs. E. J., had not been able to speak above a whisper for six months and had been treated during that time by her family physician with no result. She finally became discouraged and was sent by a friend to Dr. Vansant of Philadelphia who referred her to me. On examining the larynx, I found a nodule on the free border of the left cord near the junction of the middle and posterior thirds. The patient said she had a relative living with her who was very deaf and that during the day she talked very loud to her, pitching her voice higher than usual, and in the evening her voice was always tired and the muscles of the larynx very much fatigued. This is exactly what happens when a singer uses the chest register in singing the higher tones, and the result in this case was the same. The voice gradually became hoarser until it could be used only with great difficulty and there was almost complete aphonia.

On examining the cords during tone-production, I found that when singing the four tones C, B, A and G below the staff, the node did not come in contact with the opposite cord. Taking the patient to the piano, I then instructed her how to speak on these four tones and instructed her how to breathe properly. She was told not to talk at all until she could do so by using only these tones as fundamentals, and, in the meantime, to practice the breathing exercises half a dozen times a day.

In four weeks she had a perfectly normal voice, although pitched considerably lower than formerly. The tired feeling in the throat was also gone because the patient had learned to use her voice in the different registers without keeping the larynx in a fixed position, thus relieving the extrinsic muscles of the heretofore constant strain.

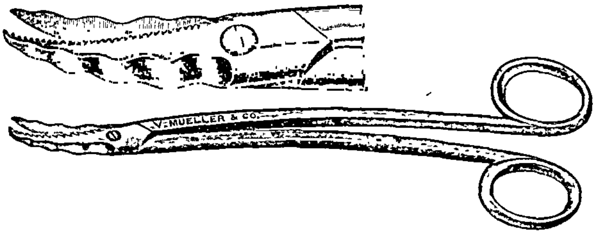
For the removal of the nodule, besides changing the faulty voice production and faulty breathing, external massage of the larynx was practiced and by the end of the third month the node had completely disappeared. For the accompanying hypertrophic laryngitis, inhalations of the compound tincture of benzoin and camphorated tincture of opium were used while the local application of a 2 per cent. solution of silver nitrate was made three times a week.

I wish to emphasize the fact that the main treatment of chorditis nodosa is teaching the patient to use the voice and respiratory apparatus properly. This appears to me a much more satisfactory method than operative measures, as, in the latter case, the node will probably reappear in time, while if the patient has learned to use the voice properly, the cause is removed and there is no danger of recurrence.

NEW TONSIL SCISSORS

WILLIAM S. WINDLE, M.S., M.D.
OSKALOOSA, IOWA

With a view to combining the good points of three instruments in one, for enucleating the faucial tonsil, I have devised the scissors here illustrated. They present these features:



Tonsil scissors with serrated blade.

1. The cutting edge of one blade is serrated and the other smooth; this facilitates the cutting of soft, slippery tissue.
2. The outer edge of each blade is wave-like in outline and beveled to a dull knife edge; this serves as a dissector. By inserting the closed scissors between the tonsil and pillar and then opening them forcibly at four or five points, the tonsil is rapidly exposed and prepared for the snare. The latter may be omitted and the operation completed with the scissors if desirable.
3. The closed scissors may be used as an Allport's or Swan's wave-edge knife for enucleating the tonsil.

Sanitation and the Hookworm.—As Boycott has clearly pointed out, three conditions are necessary for the spread of hookworm disease: (1) a certain degree of temperature, about 68 to 90 F.; (2) a certain degree of moisture; (3) fecal contamination of the ground; and these conditions are found only in tropical and subtropical regions. When the temperature here is suitable for the hatching out and development of the embryo hookworm, the weather is usually too dry; and while the sanitary arrangements, especially in the country districts of New York state, are probably not ideal, they are not to be classed with those in the tropics.—Nichols in *Medical Record.*

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

ADALIN.—Adalin, $C(C_2H_5)_2Br.CONH.CONH_2 = C_7H_{13}O_2N_2Br$, is brom-diethyl-acetylcarbamide.

It is prepared by the action on urea of brom-diethyl-acetyl bromide, obtained by the action of bromine on diethylacetic acid anhydride.

Adalin is an almost colorless and odorless crystalline powder, with a melting point of 116° C. (240.8° F.), which dissolves readily in alcohol as well as in the other ordinary organic solvents. It is difficultly soluble in water.

Actions and Uses.—Adalin is said to be an efficient and prompt sedative, reducing excitement and promoting sleep in conditions in which a powerful hypnotic is not required. In therapeutic doses it is said not to exert any unfavorable influence on the respiration or heart action. The sleep produced is said to be restful, dreamless and exceptionally free from unpleasant by-effects and sequelæ.

Adalin is said to be useful as a sedative and mild hypnotic in neurasthenia, hysteria, cardiac neuroses with tachycardia, chorea, mental disorders with moderate excitement, and insomnia due to various internal diseases, etc.

Dosage.—As a sedative 0.3 to 0.6 Gm. (5 to 10 grains), given in cold water, repeated three or four times daily it necessary; as an hypnotic 0.6 to 1.0 Gm. (10 to 15 grains), followed by a drink of hot, sweetened water or weak tea.

Manufactured by the Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 983,425 (Feb. 7, 1911; expires 1925). U. S. trademark No. 81,136.

Adalin Tablets, 5 grains.—Each tablet contains adalin 0.33 Gm. (5 grains).

BULGARA TABLETS.—Tablets containing a practically pure culture of bacillus bulgaricus.

Bulgara Tablets consist of the slowly dried cultures mixed with milk sugar and starch, each tablet weighing 5 grains and containing a sufficient number of virile organisms to effect the souring of a pint of sterile milk in less than 20 hours.

Actions and Uses.—The bacilli contained in bulgara tablets give rise to the production of considerable quantities of lactic acid which tends to restrain the growth of putrefactive organisms. They are said to be useful in diseases of the alimentary tract and in such general diseases as are believed to depend on putrefaction in the intestines.

Dosage.—One or two tablets before or after meals. The diet should contain a sufficiency of sugar.

Bulgara Tablets are marketed in tubes, each containing fifty tablets, with an expiring date stamped on the label.

Manufactured by Hynson, Westcott & Co., Baltimore, Md. Not patented or trademarked.

FERRO-SAJODIN.—Basic, ferric iodobehenate. Ferro-sajodin is basic, ferric iodobehenate having the approximate formula $(C_{21}H_{42}ICOO)_2(OH)Fe = C_{44}H_{85}O_5I_2Fe$, and containing about 5.7 per cent. of iron and about 25 per cent. of iodine.

Ferro-sajodin is produced by the interaction of iodobehenates and iron salts.

It is a reddish-brown powder, unctuous to the touch. It is insoluble in water; soluble in chloroform and ether. On heating it melts to a brownish-black liquid which emits an abundance of iodine vapors.

Actions and Uses.—It has the action of iodides and of iron. It is claimed to be more stable and palatable than ferrous iodide and not to injure the teeth or disturb the gastro-intestinal tract and is said to be free from a constipating tendency. It is claimed that it is easily absorbed but slowly eliminated, assuring a more prolonged effect.

It is indicated in conditions in which iron and iodine are employed, such as anemia, rickets, syphilis, chronic bronchitis, arteriosclerosis with anemia, etc.

Manufactured by the Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, and Farbwerke vorm. Meister, Lucius and Brüning, Hoechst a. M., Germany. (Farbenfabriken of Elberfeld Co., New York.) Not patented or trademarked. Sold in the form of tablets only, see below.

Tablets of Ferro-Sajodin, 8 grains.—Each tablet contains ferro-sajodin 0.5 Gm. (8 grains).

Dosage.—1 or 2 tablets, three times daily; for children ½ to 1 tablet, three times daily.

Tablets should be thoroughly chewed before swallowing, or in the case of small children crushed before administration.

NON-PROPRIETARY BRANDS OF ACCEPTED ARTICLES

Having been found to comply with the standards adopted, the Council voted that the following brands of accepted articles be listed:

Scarlet R. Medicinal Biebrich, Merck.—

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York).

Not patented or trademarked.

Sodium Perborate, R. & H.—

Manufactured by the Roessler & Hasslacher Chemical Co., New York.

Not patented or trademarked.

PHARMACEUTICAL PREPARATIONS ACCEPTED FOR N. N. R.

The following dosage form of an accepted proprietary article has been accepted for N. N. R.

Supracapsulin Ointment.—An ointment containing 0.1 per cent. of Supracapsulin in a base of hydrous wool fat.

Therapeutics

ASPHYXIA

(Concluded from page 1057)

ASPHYXIA FROM SUBMERSION: DROWNING

Most individuals who become asphyxiated from submersion in water or from drowning are dead when they are taken out of the water, and all efforts to restore them to life are futile. This is especially the case if complete submersion has lasted four or five minutes. The occasional instances of the successful treatment of this form of asphyxia, however, make it incumbent on the physician to be thoroughly informed as to the best methods to employ in the treatment of these cases, and to be prepared to carry them out if he happens to be near by when the patient is taken out of the water.

In the first place, the water must be expelled, so far as possible, from the respiratory passages. Probably there is no better way of doing this than by inverting the patient by taking hold of his feet and raising them up and letting his head hang down. This is a simple maneuver, provided the bystanders have strength enough to carry it out. Rolling the patient on a barrel is a crude and harsh substitute. Having removed the water as far as possible from the chest, the next thing to do is to perform artificial respiration. There are a number of methods of doing this.

The so-called method of Marshall Hall was first described in 1858, and consists in rolling the patient alternately from the lateral to the prone position and pressing on the back between the shoulder blades when he is in the latter position. This has the advantage that the tongue does not fall back into the throat and so obstruct the larynx, and the water and mucus are able to flow out of the mouth.

The following year the so-called Sylvester method was described. This consists in allowing the patient to lie on his back with his shoulders raised and his head hanging low. The operator then takes hold of the arms of the patient above the elbows and draws them gently away from his body until they arrive at a point above his head. This raises the ribs and increases the capacity of the chest. The arms then are carried down by the side and the elbows flexed and pressed against the lower part of the chest, thus diminishing the capacity of the chest and driving the air out. In this method the tongue is likely to fall back into the throat and interfere with respiration unless some one grasps it and pulls it forward.

In 1868, Dr. B. Howard, of New York, described a method of treating these cases which consists in laying the patient on his back while the physician kneels over the lower part of the body and presses on the lower part of the chest so as to diminish its capacity. He then relaxes the pressure, and the natural elasticity of the chest increases the air capacity. In this method also the tongue is liable to fall backward, and must be drawn forward. It is objected that in elderly patients the ribs are brittle and may be fractured, and that the liver is congested and may be ruptured.

Finally it remains to describe the method known as that of Professor E. A. Schäfer, professor of physiology in the University of Edinburgh. He recommends that the patient be placed in the prone position. The physician being astride the patient, the open hands are placed on either side of the lower ribs and firm, but not violent pressure is exerted. This may be done by allowing the weight of the body to come on the arms. After this pressure has been exerted for three seconds the body may be brought upward and the pressure relaxed. This should be repeated at intervals of five seconds, or twelve times in a minute.

Schäfer made investigations with a view to comparing the utility of the various methods of artificial respiration. He found that in natural respiration the air exchanged in a minute by a person breathing thirteen times a minute was 5,850 c.c. The amount of tidal air at each breath therefore would be 450 c.c. Employing the Sylvester method, the amount of air exchanged in a minute was 2,280 c.c., showing the tidal air of each breath to be only 175 c.c. With the Marshall Hall method the exchange of air was 3,300 c.c., with a tidal air volume of 254 c.c. With the Howard method the exchange per minute is 4,030 c.c. and the tidal air volume 310 c.c. With his own method he was able to pump through the lungs per minute 6,760 c.c., showing a tidal air volume of 520 c.c. He therefore believes that this is the most efficient method of performing artificial respiration. He states that the advantages are: "1, it is fully efficient; 2, it can be performed without fatigue by a single individual; 3, it is simple and easily learned; and 4, it allows the tongue to fall forward, and the mucus and water to escape from the mouth, so that the tendency of these to block the passage of air, which is inherent to the supine position, is altogether obviated."

This subject was discussed at considerable length by Professor Schäfer in THE JOURNAL, Sept. 5, 1908, page 801.

In treating these cases it is important to preserve so far as possible the warmth of the patient. Woolen blankets should be obtained, and, after the surface of the body has been thoroughly dried, wrapped about him. While artificial respiration is being employed, friction of the surface of the body, especially from the extremities toward the center, should be carefully but not roughly done. It is recommended that artificial respiration should be continued for from one to two hours, but it seems that there is very little use in continuing efforts to restore respiration after the action of the heart has ceased. As long as the action of the heart continues, the artificial respiration should be continued, regularly and systematically.

Some hospitals are establishing apparatus for promoting and compelling respiration in patients who have from ether, chloroform or other acute causes, ceased to breathe.

PRESCRIPTION-WRITING

While not strictly therapeutics, correct prescription-writing is such a close corollary to good therapeutics that it seems pertinent to introduce it in this department, and although some of the material which will appear in this and a few subsequent issues seems elementary, it is hoped that the physician who cares to read it will pardon such detail in order that the subject may be presented entire.

CHAPTER I.—INTRODUCTION

Therapeutics in its broadest sense is the ultimate aim of the science and practice of medicine. It includes not only drug therapy, to which its definition is so often erroneously limited, but also everything that has to do with the treatment of the disease, the management of the patient, of his convalescence, of his permanent return to health, and of the prevention of disease attacking the well. In other words, it is the practical application of all of the knowledge acquired by study, research and practice to the understanding and treatment of disease.

Besides aiming to suggest orthodox and valuable methods of treating some of the common diseases, it is the object of this department also to aid in the proper writing of prescriptions, as nothing more denotes an educated and up-to-date practitioner than his ability to write simple and correct prescriptions.

That it is utterly unimportant to the patient what name the physician gives to his disease or condition is self-evident. He comes to be cured, or at least to have his troublesome symptoms ameliorated, and while a diagnosis is positively essential for perfect therapy, fortunately or unfortunately, it is not always necessary for an amelioration of his symptoms or even, sometimes, for his cure. Consequently, many times the patient is as successfully treated, from his point of view, by a quack or an ignorant practitioner as he is by a scientific physician. It is also unfortunately true that many a scientific physician, owing to his medical training and to some of the best text-books on the practice of medicine, delays the amelioration of the patient's symptoms until slow laboratory processes have made a definite, positive diagnosis. Such diagnosis having been made, he is content to treat the cause of the condition, forgetting even the pain the patient is suffering, and thus his patient is often driven to quackery or dogmas or "patent medicines," and often improves from such treatment.

It should be taught not only in the therapeutic departments, but in the internal medicine departments of every medical school, and no text-book on practice should be considered complete unless it teaches that the uncomfortable, disagreeable and non-eliminative symptoms of a disease must be attended to and therapeutically managed while the disease itself is being scientifically combated. Every clinician well knows that it is the consultant only who can ignore the treatment of troublesome symptoms. All successful quackeries succeed because of their ability to relieve symptoms or to cause such mental suggestion as will relieve overtaxed minds, and many a loyal patient is driven to employ quackery by scientific neglect.

The administration of drugs is only a small part of the management of disease, and the management of disease is the highest pinnacle of the medical curriculum. It presupposes all the physiologic, chemical, anatomic, pathologic, bacteriologic and pharmacologic knowledge that can be obtained. This knowledge is then brought to bear on the management of the disease, which means necessary hygienic changes, perhaps a change of climate, an arrangement of the food and drink, physical treatment if indicated, such mental treatment as is advisable, such medicinal treatment as is needed, and necessary operative procedures, and, altogether, this is therapeutics. The subject of therapeutics is, then, the broadest and the hardest one for the medical student to grasp, and it is safe to say that the young graduate in medicine, even after a hospital course, is less prepared in the bedside and office management of disease than in any other branch of his art.

A proper understanding of and proper teaching of the ability of the mind to overcome many nervous disorders, to prevent the misinterpretation of, and the exaggeration of, slight physical disturbances should be encouraged. Psychotherapeutic instruction should be given in every medical school, and hospitals should have psychotherapeutic wards.

As scientific practitioners are just passing out of the age of drug nihilism and a belief that because a disease cannot be cured by specifics the patient should receive no treatment, we find the necessity for a better understanding of pharmacology. Just as a mental therapist will be cured of absurd prognoses and beliefs by the study of pathology, so does a thorough knowledge of the pharmacologic action of drugs prevent a doubt of their efficiency. Hence it is absolutely necessary for every medical school to furnish laboratory pharmacologic instruction. The medical graduate after such a course will demand pure, active drugs, and will use them rationally.

It is time to repudiate the assertion that Nature is a good physician or a good surgeon. It is not necessary to controvert the belief of ancient, medieval and modern medicine, as evidenced by the various Greek, Arabian, Latin, German and English terms, that the human organism is able to combat poisons and infections and to heal lesions. But we have now come to the time when it should be recognized that we not only must not obstruct in the human body the processes of eradication of an infection which natural metabolism has established; but that it is just as futile and just as absurd not to aid in combating an acute or chronic disease with the proper drugs, all correct physical and hygienic methods having been instituted, as it is to allow pus to burrow and cause serious consequences instead of properly evacuating it. In other words, natural processes are fighting just as much to perpetuate the condition or disease or infection that is abnormal to the part, as are the natural processes of the human body endeavoring to eradicate these foreigners who have invaded their stronghold. Who for one moment can think that the cancer cell is not attending to its natural function of multiplying and eating into healthy tissue, and who would allow to-day such a process to go untreated? Who would allow the diphtheria germ and its toxins to have full sway without the use of its opponent, antitoxin? It is just as absurd to declare that pneumonia and typhoid fever need no medication as it would be to declare that diphtheria needs no antitoxin and no antiseptic gargles.

The proper use of drugs that have physiologic activities being acknowledged helpful and often curative agents, it is self-evident that we expect and demand a standard of strength and purity of such drugs as laboratory and clinical determinations have proved valuable. Consequently, we await the ninth revision of the United States Pharmacopeia with hope and faith that it will furnish the standards of useful drugs, and trust that it will not officialize and attempt to standardize drugs of no therapeutic value and of no pharmacal necessity. A standard book that contains many useless articles and standardizes many common substances insults its articles of value and loses them in a fog of uselessness.

While simplicity in prescription-writing is advisable, it cannot be gainsaid that the art of combining drugs or of rendering a drug less disagreeable should be taught in the medical schools. Even with this laudable object in view, however, it is not justifiable for a physician so to belittle his profession and forget rationality in his treatment of a patient, to say nothing of the enormous graft which he hands the proprietary firms from the pockets of his patients, by ordering proprietary mixtures. The physician who orders such preparations does not realize the positive harm he often does his patients, in some instances almost amounting to criminal negligence. No one deems it reputable, or scientific, or just to patients to prescribe preparations the ingredients of which he does not know. This is little less than malpractice. The patient pays for our opinion. If we prescribe a nostrum, it is fraud, as he could prescribe his own nostrum without paying our fee. He seeks intelligent advice and knowledge, and we have cheated him by giving him unknown mixtures or ignorance. With the aid of an honest druggist, by means of our Pharmacopeia and National Formulary, we hardly need a single proprietary mixture in the medicinal treatment of disease.

Few physicians know the range and compass of these books. They contain sixty cerates, ointments, salves, mulls, petroleums and collodions. Can any one doubt that with this number of greases a good sedative or stimulant ointment could not be selected, or any combination made that was desired? They also offer seventy-seven oils, waters and liniments for external use; certainly all the rubs that there is room for on the human body. There are at least twenty-two simple and antiseptic dusting powders; certainly enough. So much for external remedies.

The Pharmacopeia of 1900 contains two vinegars, seventeen waters, three elixirs, six emulsions, twenty-eight extracts, eighty-five fluidextracts, two glycerites for internal use, about twenty liquors or solutions for internal use, four mixtures, six oleoresins, forty-five oils, fourteen pills, nine powders, four resins, twenty spirits, twenty-nine syrups, sixty-four tinctures, nine troches and ten wines; while the National Formulary contains one vinegar, sixty-four elixirs, nine emulsions, two extracts, thirty-six fluidextracts, four glycerites, more than thirty-eight solutions, eighteen mixtures, twenty-one pills, nineteen powders, three spirits, thirty-seven syrups, twenty-seven tinctures, and ten wines. No sane person would advocate using all of this heterogeneous mass of preparations, but every physician can, with the aid of his druggist, select the few formulas that he will use that will be as elegant and pleasant methods of giving drugs as proprietary preparations, and, moreover, will represent guaranteed doses of the various ingredients of the formulas selected.

While the use of some of the preparations above named is advised, it should be understood that it is much better to combine one's own prescription to fit the individual case, but these official preparations preclude the necessity for using proprietaries.

Now, what are the bugaboos that make the physician reach for the proprietary preparations?

First, tonics: The first drug to consider is iron, and the proprietary preparations of organic iron are legion. There is not a single, good, substantial reason why we should order any one of them, and certainly the profit ordered by physicians to be paid by trusting patients to foreign manufacturers is unjustifiable. No iron will act any better than an inorganic iron. If there is an idiosyncrasy against it, smaller doses should be used, and, ordinarily, too large doses of iron are given. The reduced iron, the mass of carbonated iron, the pill of the carbonate of iron, the saccharated oxid of iron (*Eisenzucker*) in tablets for children, the tincture of the chlorid of iron, the syrup of the iodid of iron, with ten elixirs in the U. S. P. and N. F. containing iron, and any number of other iron salts can do all in the iron line that it is possible to do. No "patented" iron can do therapeutically what we cannot do with one of the first five mentioned iron preparations.

Now as to beef: Is there any beef preparation made, in recommended daily dose, that can equal a small piece of steak, a little scraped beef *pâte,* a little chopped raw beef, or expressed beef serum? No.

As to other albuminoids and protein foods, a little milk, a little white of egg, a little oatmeal gruel, and many other simple nutriments preclude the necessity for their use, except in rare instances.

We do not need a "patented" bitter tonic. We have the compound tincture of gentian, the compound tincture of cinchona, and the tincture of nux vomica, in one to five drop doses, and we need for bitter tonic purposes no other.

As to stimulants: It is not necessary to pay for a poor "patented" sherry. We had much better order whisky, brandy, sherry, ale, or champagne, as needed, and the patient will save money and receive better stimulation.

As to digestants: Very rarely is pepsin needed, and pancreatin is of but little value in the stomach. If they are needed, the Pharmacopeia and National Formulary offer several preparations for a choice. Even predigesting powders are furnished by these official books. In other words, the long list of proprietary digestants is not needed.

We do not need the fat and oil emulsion proprietary preparations. The oil emulsions of the U. S. P. and N. F. are sufficient, if we desire them. Straight doses of cod-liver oil are better, and cream, butter and olive oil surpass any fat emulsion. We need no proprietary suspensions of oils, as the U. S. P. and N. F. offer all that are needed from turpentine to castor oil.

Tasteless quinins are mostly useless, and the various methods at our disposal of giving quinin allow us to surmount all difficulties of age and taste and we need no proprietary help other than the free-to-all elegance of the elastic capsule.

We do not need the legion of "patented" preparations of glycerophosphates and lecithin, as the National Formulary furnishes an elixir of glycerophosphates with lime and soda.

Concerning the long list of antipyretic preparations, cough-mixtures, hypnotics, and nerve sedatives, there is but one thing to say, viz., that any physician who thinks he is unable to write the prescription needed for the individual who requires such medication should instruct himself in the method of writing for such drugs and arranging such pharmacally and pharmacologically correct combinations as will suit the needs of his patients. A long list of antipyretic "coal-tar" drugs is not needed. The official antipyrin, acetanilid and acetphenetidin (phenacetin) are all that need to be used. Caffein, camphor, soda, phenyl salicylate (salol), and any other drug can be combined with them, if desired. As to cough-mixtures: What codein, ipecac, ammonium chlorid, potassium iodid, terpin hydrate, and syrup of hypophosphite cannot do, cannot be done at all with drugs. Any or all of these should be given with absolute omission of the ancient, nasty, sweet and nauseating syrups. There are no combinations of hypnotics that cannot be better made by ourselves, and for much less cost to our patients.

None of this should prevent a physician from trying a new drug if he thinks it is an honest one, because we should be ever ready to make use of a valuable discovery, but never to further a fraud. Such a new drug should be ordered straight or used only in our own combinations, and never in a ready-made mixture offered by the firm interested.

Nerve sedatives for hysteria and allied conditions are either useless and act by suggestion, or they carry the danger of forming a drug habit. We should write for our own patients our own prescriptions.

Among the various uric acid and gout-curing preparations fraud and credulity are rampant. The regimen and extra water abolishes symptoms, if anything is done at all, and of all waters, pure distilled water is the best. It is not intended to assert that a sojourn at a water health resort is not of first-class advantage, because it is. A change of climate, a change of water, a change of food (cooked differently, hence often chemically different), a change of life and freedom from worry, and a change of exercise are the factors that do good, and not "urate solvents." This is not to declare that minute doses of some chemical ingredient in certain waters, taken for a long time, may not modify metabolism; this must be acknowledged, but it does not alter the absolute falsity of the lithic acid and urate solvent promises.

Next we come to the effervescing preparations, and here we should lean on the druggist. A large number of effervescing preparations are official, but any favorite combination of any physician can be prepared by his druggist to effervesce at a cost much less than the same in proprietary bottles that are blazed to show the laity that they are proprietary, and unless the druggist is particularly careful, carry a lot of quack literature into the family, which is read with avidity, "as the doctor ordered it," all for a price which furnishes a splendid profit to the concerns making these preparations, but hardly enough profit to the druggist for shelving them.

As to disinfectants: Again the Pharmacopeia and National Formulary come to meet our needs with mercuric chlorid, phenol, hydrogen peroxid, formaldehyd solution, potassium permanganate, chlorinated lime, and various solutions; and the druggist is ever ready to make in large quantity, or strong for solution, any disinfectant that we may select. Also, he can readily make any alkaline mouth-wash that we may elect, if the two that are official are not satisfactory.

The art of writing our own prescriptions is only a question of a book or two, a little study, careful selection of official preparations, a few heart-to-heart talks with a trusted druggist, and the thing is an accomplished fact.

(To be continued)

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 DEARBORN AVENUE . . . CHICAGO, ILL.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

[*For other information see second page following reading matter*]

SATURDAY, SEPTEMBER 30, 1911

DIABETES

The diabetes produced in animals by complete or almost complete removal of the pancreas so closely resembles human diabetes in its essential features that it is reasonable to hope that any method which will cure the former will also be of use in the latter; any light which may be obtained on the experimental form will also help to a better understanding of the human disease. We commented some time ago[1] on the futile efforts which had been made to control diabetes in animals by the administration of extracts of the pancreas and compared them with the similarly futile efforts to treat human diabetes in this manner.

Hédon,[2] one of the most experienced and critical experimenters in this field, has recently made some important observations on experimental diabetes. He has long taken a critical attitude toward the theory of an internal secretion of the pancreas, maintaining that it could not be considered as proved until an experiment could be devised in which the experimental diabetes could be checked by the administration of a product obtained from the pancreas. He speaks of the negative results obtained from the injection of various extracts of the pancreas, of the serum from the pancreatic veins, etc., and remarks that he was near believing the process to be an irreversible one. He had found that when a crossed circulation was established between a normal and a diabetic dog, sugar disappeared from the urine of the latter. Such a result would have been interpreted by a less critical observer to mean that the internal secretion of the normal dog had checked the diabetes in the other dog. Hédon, however, found that when the circulations of two diabetic dogs were crossed there was also a diminution of the glycosuria; such a result suggests that the effect was due to an action on the permeability of the kidneys for sugar.

In the present experiments a portion of the pancreas of a normal dog was inserted into the circulation of a diabetic dog. When the carotid and jugular were used there was no effect on the glycosuria of the diabetic dog; when, however, the pancreas was inserted into the circulation of the spleen, the sugar almost disappeared from the urine after some hours but returned when the *connection between the two animals was broken.* Thus a normal pancreas checked the glycosuria only when it was so placed that its internal secretion entered the portal circulation directly.

Hédon and others had found that the injection of blood from the pancreatic vein of a normal dog into the general circulation of a diabetic dog had no effect on the glycosuria of the latter; he now finds, however, that if the blood be injected into a mesenteric vein of the diabetic dog the glycosuria falls for a time almost to zero. In all of these experiments, however, there was far less diminution of the sugar in the blood than of that in the urine; the first effect of the pancreatic secretion was to render the kidney less permeable to sugar.

These experiments are significant. They constitute the first demonstration that an internal secretion of the pancreas can check a diabetes already established; this was accomplished, however, under conditions so far removed from anything which can be realized in therapeutics that an effective treatment of human diabetes by pancreatic extracts seems more remote than ever.

These experiments also emphasize the importance of the liver in diabetes and lend further support to the view, which seems to be gaining many adherents, that the cause of diabetes is to be sought in an overproduction of sugar (chiefly in the liver) rather than to a diminished oxidation of sugar; according to this view the function of the internal secretion of the pancreas is to inhibit the production of sugar rather than to facilitate its consumption.

These, and some earlier experiments of Hédon, go far toward explaining the almost uniformly negative results from the use of pancreas in human diabetes; they also make it very probable that the favorable results reported by three or four writers had no connection with the pancreas which had been administered. In some of the cases the beneficial effects were stated to continue for long periods after the administration of the pancreas was discontinued. An animal becomes diabetic within an hour or two after removal of the pancreas; that is, the secretion disappears from the blood exceedingly rapidly even under the most favorable conditions of secretion. These alleged favorable results constitute the sole "evidence" that has yet been offered in support of the view that the internal secretion of the pancreas is absorbed when administered by the mouth. It may be considered as certain that the improvement noted in such cases was in no way dependent on the internal secretions of the pancreas administered.

It is well to remember the caution recently emphasized by Sewall,[3] who says: "It is, of course, unnecessary to dwell on the well-known fact that the clinical course of diabetes mellitus is at times apparently subject to amelioration under a great variety of conditions and remedies which probably have no specific relation to the pathologic process."

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[1] The Journal A. M. A., June 3, 1911, p. 124.

[2] Hédon: Compt. rend. Soc. biol., July 14, 1911, p. 124.

[3] Sewall: Am. Jour. Med. Sc., Sept. 11, p. 321.

It should be added, however, that, according to Falta,[4] there is a small group of cases of diabetes in which the administration of pancreas by the mouth gives good results; but in these cases there is some interference (usually the result of lithiasis) with the secretion of the pancreatic juice into the intestine. These cases are not comparable to ordinary diabetes.

COMMERCIAL ANTISTREPTOCOCCUS SERUM

In these days of the preparation of immune serums by proprietary houses, it is obvious that many such products will be of problematical virtue; so that a recent study of various commercial antistreptococcus serums by Weaver and Tunnicliff[1] possesses a distinct practical value, aside from the theoretic interest always attaching to such work.

In a previous preliminary report[2] these investigators had announced their almost complete failure to find any action of such serums on laboratory animals; and it is encouraging to note that the results of their more complete later work are at variance with this, and show, in several of the commercial preparations, a distinct protective power.

The first part of their work consisted in the testing of fresh specimens of antistreptococcus serum, obtained from one of the commercial houses, as soon as possible after its withdrawal from the animals. Such serums were tested both for their protective power in guinea-pigs against later doses of virulent streptococci, and for their content in opsonin. The latter was found to diminish fairly rapidly, until at the end of a month it had disappeared completely. It could be almost completely restored, however, for variable periods afterward by the addition of dilute fresh normal serum, and the protective power for animals was found to coincide quite closely with this period of capacity for reactivation. The injection of the serum into the animals resulted, as might be expected, in a rise of their opsonin for streptococcus, and also of the phagocytic activity of their leukocytes, and this rise of phagocytic power seemed to be specific for streptococcus. The duration of the protection was about eight days—corresponding very closely with the period of increased opsonin content in the blood.

Five commercial antistreptococcus serums, three of American and two of European preparation, were studied similarly. Of these, both of the foreign and two of the American serums protected guinea-pigs against a minimal lethal dose of streptococci in quantities of from 1 to 6 c.c. The third American serum had no evident protective action. Of course, the administration of a correspondingly large dose to man would be out of the question, but there are apparently reasons for believing that relatively smaller doses may be efficient in cases of human infection; for it was found that the immune serums were reactivated more readily and to a greater degree by human than by guinea-pig serum, so that the same amount may well possess a greater protective power in man than in the guinea-pig. And the usually localized and more prolonged human infection presents an entirely different, and possibly less difficult, problem, than the very acute generalized infection of laboratory animals. Clinical observation has shown, however, that large doses are most effective, and concentration of the serum might be of great value. The possibility of such concentration is pointed out by Weaver and Tunnicliff, who found the antibodies to be united with the pseudoglobulins of the serum as is the case with diphtheria antitoxin.

In view of the fact that one of three of the American serums was found apparently quite inactive, the recommendation of the investigators, that a guarantee as to efficiency be furnished, similar if possible to that of diphtheria antitoxin, seems very reasonable. With such an assurance of reliability, it is probable that the antistreptococcus serums would rapidly acquire a greater importance than their present uncertainty gives them. In this connection, however, it may be well to emphasize the necessity for making an accurate bacteriologic diagnosis previous to the use of such serums, as without this it is impossible to expect consistent results.

EFFECTIVE GARBAGE DISPOSAL

Until lately American practice in the matter of garbage disposal has not been a matter for national pride. Two methods have been common: unsightly, malodorous piles of decomposing refuse have been — in some places still are! — allowed to accumulate in the vicinity of dwellings, or cheap, ineffectual "disposal plants," installed and operated by greedy or dishonest private contractors, have been run for a few years and then allowed to lapse into well-earned oblivion. Neither procedure is creditable to a civilized state. There are now signs that the era of slovenliness and waste in this as in many other municipal activities is drawing to a close. In many places local conditions are being studied by unpaid competent commissions rather than exploited by junketing aldermanic committees. A beginning has been made in establishing high-grade modern plants under expert supervision and in operating them under expert management, which is just as important.

As the reports of some of these plants are coming in we can see more clearly than ever what a mess has been made in the past by the representatives of the people in dealing with this question. There is really no need for a continuance of the offensive and wasteful methods that have been commonly employed in this country. The best expert advice backed by practical experience with American conditions is now available at a moderate price and there is no excuse for any community placing itself in the hands of self-seeking contractors and promoters.

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[4] Falta, W.: Therapy of Diabetes Mellitus, Arch. Int. Med., 1909, iii, 160.

[1] Weaver and Tunnicliff: Jour. Infect. Dis., 1911, ix, 130.

[2] Preliminary Report of Investigations of Serums and Vaccines for Streptococcus, Staphylococcus and Pneumococcus Infections, The Journal A. M. A., Jan. 25, 1910, p. 257.

At least two methods of garbage disposal have proved effective in typical American cities: incineration and reduction. In the incinerating type of plant all kinds of refuse, ashes, paper, rags, scraps of food, kitchen waste, etc., are fed together into crematories and burned. In European works of this type the heat generated by the combustion with a forced draft is a source of considerable revenue. One of the best examples of an incinerator plant in this country is the Milwaukee incinerator, which has been in full operation since May, 1910. Constructed and operated under excellent engineering control, this plant may well serve as a model for other cities.[1] At the old Milwaukee plant the cost of disposal reached as high as $1.37 per ton of garbage, while the cost at the new plant is less than 60 cents per ton. If the excess supply of steam generated at the plant is economically utilized the actual cost will be further greatly reduced.

In garbage reduction works the sorted garbage is passed through various digestors, tanks and roller presses with a view to extracting the valuable portions, especially the fats and the nitrogenous matters. The process needs careful management on account of the offensive gases generated during the treatment. The prevention of a nuisance entails some expense, and hence privately installed reduction works operated for commercial purposes often give rise to much justifiable complaint. Municipal plants constructed with an eye to the comfort of the citizens rather than the pockets of contractors are likely to be much more effectively operated than private ones, as shown by the experience at Columbus, Ohio. The Columbus plant, put in operation in July, 1910, is the first reduction plant in this country designed and constructed by a municipality.[2] "It was not the intention in designing the Columbus plant to try experimental machinery, but rather to assemble to best advantage machinery of known and tried types and only such as had proved most satisfactory in other plants." Successful financial operation of this plant appears in the fact that it netted $2,000 a month for the first six months.

The reasonable and businesslike way of approaching the garbage disposal question seems therefore to be the employment of a reputable and competent engineer to examine local conditions and report on such topics as the most economical routes for collection and transportation, the establishment and location of one or more centers for disposal and the final method of treatment—incineration or reduction—best suited to the amount and nature of the refuse gathered. Small towns should beware of the man with patented machinery. In all cases the expert adviser is better than the quack.

THE CHOICE OF A MEDICAL SCHOOL

At the present time doubtless hundreds of students are wavering in their choice of a medical school—a choice which is of the utmost importance to their future welfare. Before the selection of a medical school is made, the student should inform himself regarding the legal requirements for the practice of medicine, which have been undergoing many changes during the last few years. It is well known that the legal control of the practice of medicine in this country rests, not with the national government, but with the individual states, and that the forty-nine states and territories differ widely in their requirements. It is extremely important, therefore, for the student to know what qualifications he must possess in order to secure a license in the state where he desires to practice. For example, he should know that in order to secure a license in Colorado, Indiana, Iowa, Minnesota or North Dakota, he must have had two years of collegiate work or its equivalent, and that in Connecticut, Kansas, South Dakota and Utah he must have completed one year of collegiate work before beginning the study of medicine. Furthermore, if he desires to secure a license in any of the above-named states or in any one of the nineteen others, he must take his medical training in a college which is considered a "reputable" institution, or one which has been "registered" in the state where he expects to locate.

State boards have various methods of determining what colleges are "reputable." Some make their own inspections, either in person or by proxy; others base their judgment on the reputation held by the colleges; some require that the institution hold standards equal to those of the Association of American Medical Colleges, and of late several states have decided to recognize only those colleges which are listed in Class A by the Council on Medical Education of the American Medical Association.

Each year the requirements by state boards are becoming more exacting. The number of boards which will require one or two years of college work as the minimum of preliminary education will doubtless increase and the requirements regarding the equipment and facilities of medical schools will become more rigid. As will be noted in the Current Comment Department below, any medical college, to be registered in New York after Oct. 1, 1912, must have at least six salaried instructors devoting their entire time to college work besides having ample apparatus and equipment.

Another requirement by state boards which the prospective medical student must consider seriously is that of the state license examination. Year by year these examinations are becoming more severe and the student should use much care in selecting a medical college which will best prepare him for those examinations. Information on this point can be obtained by a careful study of state board statistics such as are published annually in The Journal.[1] It would be a serious matter indeed to select a medical school having a high percentage of failures of its graduates at state license examinations when doubtless for the same expenditure of time and money the student could secure a training in a first-class medical college.

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[1] A full description of the Milwaukee incinerator, with drawings and operating data, is given in the Engineering News, July 21, 1910.

[2] For description, with diagrams and photographs, see Engineering News, *Nov. 17, 1910.*

The student may well be guided by the reports on medical colleges also published from time to time in The Journal. From the investigations made by the Council on Medical Education, the colleges having what was considered an ample corps of teachers and satisfactory laboratories, equipment and clinical facilities, were listed as acceptable schools, that is, in Class A. Schools which were not so well equipped, or which were considered unsatisfactory were listed respectively in Classes B and C. Of the Class A colleges, twenty-eight[2] are now requiring two or more years of collegiate work for admission. The student will not be making a mistake should he select one of these twenty-eight schools, the diplomas from which are acceptable at present in practically every state of the Union. The student having had less than two years of collegiate work, should investigate carefully, before deciding on a medical school, the requirements of the state or states wherein he would like to locate. Furthermore, he should consider whether it would not be better for him to secure the additional preliminary education which would admit him to a medical school wherein he could get the best possible medical training and from which he could secure a diploma making him eligible for a license in any state of his choice. Disappointed indeed will be that student who, after having spent a large amount of time and money, finds on graduation that his diploma is not recognized in a large number of states.

Current Comment

MAGAZINE ARTICLES WHICH ARE WORTH WHILE

An important factor in the crusade for better health conditions is the active interest shown in this question by the better class of popular magazines. The part taken by *Collier's* and the *Ladies' Home Journal* is well known. In the last two or three years, many excellent articles on health matters have appeared in other magazines. Four articles in current periodicals are worthy of special mention. In the September number of the *Delineator*, Samuel Hopkins Adams, under the title of "The Health Master" gives in narrative form some plain truths about drug victims produced by "patent medicines" and soft drinks. In the October *Hampton-Columbian*, O. K. Davis gives the details of "The Case of Dr. Wiley" and the facts regarding the conspiracy to secure his discharge. In the October *Pearson's*, Earl Mayo discusses, under the title of "Public Health vs. Private Gain," preventable sickness and the duty of the government and, incidentally, the efforts that are being made to prevent the establishment of a national department of health and the reasons for the opposition. In the *Outlook* for September 23, the same writer has an excellent article on "The Work That Kills," a discussion of occupational diseases and means for their prevention. Such articles, by the best representatives of the modern school of American magazine writers, are of great educational value and are sure to do good. It is fortunate that our popular magazines, not willing to be confined to sentimental stories and trivial entertainment of their readers, have realized their great possibilities as an educational force and are usually to be found on the right side in any great battle for the public good. Such articles as the four mentioned are of inestimable value in enlightening the public on the needs and the methods of health reforms. More light, more knowledge, more education of the people must be furnished until the demand for federal action for the preservation of life becomes irresistible. It is by such means that lasting reforms can be brought about.

RELIGION AND QUACKERY

For years the religious press reeked with unsavory advertisements of nostrums and quacks of varying degrees of fraudulency and indecency. Public opinion finally forced the more influential church papers to throw out this class of advertising and to-day, except for some of the more insignificant publications, the religious journals are practically free from the blight of "patent medicine" advertisements. That quackery still seems to possess a peculiar fascination for the clergy, however, was recently shown in an episode that occurred at Kansas City, Mo. That city is the unfortunate possessor of a quack named Carson—Hiram Carson, or as he calls himself "Dr. C. H. Carson." This charlatan has grown rich, thanks to a venal press and the large supply of gullible sick. He used to "treat" by means of "vital·force," developed by rubbing his victims with vaselin mixed with red pepper. The tingling produced by the red pepper was, he assured his dupes, the "vital force." Later he improved on this "treatment" and had his assistants give out slips of tissue paper that he had "magnetized." These slips the patients were instructed to pin on their nightgowns between the shoulder-blades! Carson is now operating what he calls the "Temple of Health," and advertising heavily. As a means of drumming up trade Carson occasionally gives elaborate "receptions" at his "Temple of Health," to which the curious are invited. A little while ago a meeting of this kind was held at which, as a crowning advertising stroke, Carson got the pastor of one of the leading Congregational churches of the city—the Rev. J. B. Silcox—to give an address! This address and other details of the "reception" occupied nearly two columns in the Kansas City papers of the following day, and although a paid advertisement, the article was set up in news-matter style. Why a reputable minister of the gospel, whose own church membership is strictly high-class and, we are informed, includes some of the best-known medical men of the city, should endorse such a blatant quack as Carson, is a mystery. Every intelligent layman in Kansas City knows that Carson is a humbug and that his system is a fake. Every man in that city also knows, or could know, that Carson's only claim to the title "doctor" lies in his possession of a "diploma" from as wretched a mill as ever ground out parchments—the American Health College of Cincinnati, long since defunct, thank heaven! If there is one class of men more than another that should stand between suffering ignorance and the machinations of the miserable harpies of the Carson type, it is the ministry. If there is one man more than another who should expose the deception and covetousness of the quack, it is the man who professes to follow the teachings of Him whose voice was always raised against shams and cheats and the cupidity of avarice. Yet we have, in the address of Rev. Mr. Silcox, the unedifying spectacle of a Christian clergyman lending the influence of his cloth and personality to further the cause of one who fattens by deceiving the sick and suffering.

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[1] The Journal A. M. A., May 27, 1911, p. 1558.
[2] The Journal A. M. A., Aug. 19, 1911, pp. 640, 641.

ADVANCE STEP IN MEDICAL EDUCATION BY NEW YORK

About a decade ago the Revised Statutes of New York fixed a requirement, among others, that any institution to be ranked as a college should have "at least six professors giving their entire time to college and university work." The investigation made by the Council on Medical Education revealed the fact, however, that the Board of Regents did not make this rule apply to medical colleges of New York or of any other state. It remained for the Council on Medical Education, in 1910, after having completed two tours of inspection of the medical schools in the United States, to publish an outline of the essentials of an acceptable medical college; this included the requirement of six full-time, salaried professors. The Council also published the following definition of a medical college, basing it on the New York law referred to above: "An institution to be ranked as a medical college must have at least six professors giving their entire time to medical teaching, a graded course of study of four full years of college grade in medicine, and must require for admission not less than the usual four years of academic or high school preparation or its equivalent in addition to the preacademic or grammar school studies." As will be seen by a news item which appeared last week,[1] the above definition has been adopted by the New York regents in an amendment to their revised rules, this amendment providing that, after Oct. 1, 1912, every medical college to be registered in New York as maintaining a proper medical standard must have at least six full-time instructors besides ample apparatus and equipment. The argument advanced in the regents' report for this amendment is as follows: "The value of a medical education like the value of a liberal arts education is dependent as much or more on the teachers in the medical college as on the material equipment of the institution. Certainly at least six expert, thoroughly trained instructors in the laboratory branches of the medical course, salaried so that they may devote their entire time to instruction and to that research without which they cannot well keep up with the rapid progress being made in their subjects, is not too many teachers to require for a medical school that is to be recognized in this state as thoroughly preparing for the profession of medicine candidates who are to receive a degree that will admit them to a licensing examination." The influence exerted and the prominent position occupied by the New York Education Department in the control of educational institutions in the United States makes this decision one of much importance, and one that will aid in the development of better teaching in the medical schools of this country.

LET CONGRESS INVESTIGATE THE "MEDICAL TRUST"

In the Medical Economics Department[1] appears an open letter from Mr. George P. Hampton, secretary of the Conference of Progressive State Granges to Senator John D. Works of California. Mr. Hampton's letter is worthy of note for two reasons: First, it definitely and officially contradicts the statement made by Senator Works, in his astounding speech in the United States Senate in defense of Eddyism, that the National Grange had repudiated its endorsement of a national department of health. Mr. Hampton proves that the National Grange really reaffirmed its previous endorsement. Second, the letter contains in its closing paragraphs the following pertinent remarks:

> "Christian Scientists fear the consequences that would follow the enactment of such legislation as the Owen bill proposes. If that fear is well founded, and your belief that the American Medical Association is a medical trust is well founded, is it not time that the country knew these and all the facts relating to this burning question? What possible better means have we than a rigid Congressional investigation by a committee specially organized for that purpose? The House of Representatives, as at present constituted, is believed to be honestly desirous of serving the people. It is investigating the trusts, probing into the expenditures of the various departments of the government, and why should it not have a committee on health and thoroughly investigate this matter of such vital importance to all the people. Surely the Christian Scientists are not opposed to honest investigation by a committee having power to probe every charge and countercharge to the bottom."

Mr. Hampton's position is a thoroughly sound one. If the American Medical Association is a "trust" or if it is endeavoring to create a trust, certainly the people should know it. If the physicians of the country are seeking a health department so as to create positions for themselves, and not to stamp out disease and save human lives, the public should know it. On the other hand, if the American Medical Association and the medical profession are earnestly and honestly striving to increase our knowledge of the cause and means of prevention of epidemics and to wipe out preventable disease, then the people should know this and should lend their aid in this life-saving campaign. As Mr. Hampton says, "Why should it (the House of Representatives) not have a committee on health and thoroughly investigate this matter?" Why should not the work of the American Medical Association be investigated? Why should not Congress be able to tell the American public the truth? Surely the needless loss each year of 600,000 lives is of as vital importance to the people as the price of sugar, tobacco or steel rails. Will Congress "investigate" the American Medical Association and its work? If it will, the books and records of the Association will gladly be produced and its officers and members will willingly testify, nor will any order from the courts be necessary to insure their presence. Investigation and credit for the work it has done and is now doing is exactly what the Association most desires, since it knows that the more the people know of its work for the public good, the more it will enjoy the confidence and support of the public.

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[1] The Journal A. M. A., Sept. 23, 1911, p. 1063.

[1] Page 1154, this issue.

Medical News

ALABAMA

Dispensary Open.—St. Vincent's Free Dispensary, Birmingham, was opened September 5. It is located in the basement of the new wing of the hospital, and is to be open from 2 to 4 p. m., daily excepting Sunday.

Personal.—Dr. Edward B. Bailey, Demopolis, luckily sustained only slight injury when his automobile fell into a 10-feet ravine, September 6.——Dr. Charles M. Moore has succeeded Dr. Rhett Goode, resigned, as health officer of Mobile.——Dr. Claude L. Murphree has been made meat and milk inspector of Gadsden.

ARKANSAS

Sanitarium for Colored Patients.—Dr. Claude M. Wade, Hot Springs, has secured the control of the Pythian sanitarium and bath house, which he proposes to use for the care of sick and indigent colored people who come to Hot Springs.

Personal.—Dr. James L. Greene assumed charge of the State Hospital for the Treatment of Nervous Diseases, Little Rock, August 31.——Dr. Harry C. Stinson, superintendent of the State Hospital for the Insane, took formal charge of the Confederate Home, September 1.——The home of W. T. Gabbert, West Forks, was destroyed by fire, September 12.

CALIFORNIA

State Branch Hygienic Laboratory to be Opened.—Arrangements are being made for the establishment of a branch hygienic laboratory in Los Angeles, where Pasteur treatment may be administered, and also where investigations regarding violations of the pure food law and of water pollution may be conducted.

University to Have an Isolation Hospital.—The board of trustees of Leland Stanford, Jr., University, Palo Alto, has granted a site for the erection of an isolation hospital for the segregation of students with contagious diseases. These cases have heretofore been quarantined in dormitories or private rooming houses. The hospital is to cost $10,000.

Personal.—Dr. Leonard E. Stocking, Agnew, superintendent of the Agnew State Hospital, has been given three months' leave of absence by the board of managers.——Dr. Harold Brunn, San Francisco, who has been seriously ill with pneumonia, is reported convalescent.——Dr. Douglas Brown, formerly of New York and Panama, has been appointed resident physician to the Spreckels Sugar Company, Spreckels.——Dr. J. Auburn Wiborn, San Francisco, fractured his right leg in a fall down an embankment at Klamath Springs recently.——Dr. Thomas R. Meux, Fresno, was seriously injured in a runaway accident, September 4.——Dr. Washington Dodge has been elected a trustee of the San Francisco Free Library.

COLORADO

Loving-Cup for First-Aid Contest.—A silver loving cup is offered by Dr. Thomas J. Forhan, Trinidad, for the best exhibition of first aid to the injured work by a team of school boys under the age of 16. The contest is open to the boys of any school in Las Animas County, and will take place at the time of the county fair.

Personal.—Dr. Benjamin F. Wooding, Denver, has retired from the State Board of Health.——Dr. Carl A. Helgeson, Grand Junction, has been reappointed inspector for the board of health of New York City.——Arnold Stedman, Denver, announces that he decided not to accept appointment as member of the State Board of Health.——Drs. John E. Sawyer, Denver, and Robert Elwood have filed incorporation papers for the opening of a sanitarium in Boulder, for the treatment of rheumatism.

GEORGIA

Officers Resigned.—At the adjourned meeting of the Clarke County Medical Association at Athens, September 9, the resignation of the president, Dr. Daniel H. DuPree, Athens, and the secretary, Dr. John Gerdine, Norfolk, Va., were accepted. Dr. Singleton S. Smith was elected president, and Dr. Samuel C. Benedict, secretary.

Pellagra Hospital Open.—Len G. Broughton, pastor of the Institutional Church, Atlanta, has opened a pellagra hospital in connection with the church. The institution will accommodate twenty-one patients. The permanent free clinic for the diagnosis and treatment of pellagra has been opened by the Atlanta Associated Charities in Room 708, Gould Building, and is open on Wednesday and Saturday from 5:30 to 6:30 p. m.

IDAHO

Personal.—Dr. Harley E. French, Moscow, has been elected professor of anatomy and dean of the medical department of the University of North Dakota, Grand Forks.——Dr. Arthur R. Soderquist, Idaho Falls, was thrown from his automobile recently and sustained painful injuries.——Dr. F. S. Wright has been appointed health officer of Salmon City.

ILLINOIS

Bequests to Hospital.—By the will of the late Emanuel Frankenthal, Chicago, $2,000 is bequeathed to St. Luke's Hospital, and a similar amount to Michael Reese Hospital.

Clinic for School Children at Evanston.—Dr. George W. Boot, president of the staff of the St. Francis Hospital, Evanston, announces that the hospital has arranged for a free clinic for school children needing attention on account of conditions found by school inspectors. The clinic will be held each Saturday at 1:30 p. m.

Tuberculosis Clinic Established.—The Springfield Tuberculosis Association held its first evening clinic between 5 and 6:30 p. m., September 14, at the dispensary, 717 East Washington Street. Evening clinics are to be held on every Thursday, to accommodate patients who are unable to attend during the working hours.

Personal.—Dr. J. N. Thresh, Danvers, who has been ill at St. Frances Hospital, Peoria, has returned convalescent.——Physicians of Mattoon gave a dinner, September 14, in honor of Dr. Cleaves Bennett, who has removed to Champaign.——Dr. Harvey L. Hensley, Oakwood, is reported to be critically ill.——Dr. Charles R. Spicer, Aurora, has been elected chief medical examiner of the Yeomen of America.

Hospital Notes.—The village council of Oak Park has refused permission to build the West Suburban Hospital in that village, on the ground that the management had failed to obtain the necessary consent of the neighbors to the erection of the building.——At the annual meeting of the officers of Proctor Hospital, Peoria, Mr. Oliver J. Bailey was reelected president. A memorial tablet was placed in the hospital in memory of the late Dr. John Murphy.——Dr. and Mrs. Edmund F. Cleveland, Dundee, have announced that they will furnish the dormitories on the first floor of Sherman Hospital, Elgin, now occupied by the nurses. The dormitories are to be remodeled and divided into six rooms, which will be used as wards for women and children. The gift is in memory of their daughter.

Chicago

Institute Does Not Employ Solicitors.—The Chicago Tuberculosis Institute announces that no solicitors are employed to collect money for the organization. The reason for this announcement is that two men are reported to have been soliciting money for the alleged benefit of the institute.

Neighborhood Health Lectures.—The Chicago Medical Society plans to give neighborhood health lectures throughout the city during the winter months. Public lectures have been given in the public library in previous years, and it is now proposed to extend the scope of these lectures by having talks along health lines made in various sections of the city, and in school houses, if they may be obtained from the board of education.

Personal.—Dr. John Ridlon has been elected consulting surgeon for the Newport (R. I.) Hospital.——Dr. William S. Sadler sailed for Europe, September 23.——Dr. and Mrs. Charles S. Bacon and family, Dr. and Mrs. Alexander F. Stevenson and Dr. and Mrs. Arthur H. Geiger have returned from Europe.——Dr. Alexander H. Ferguson has taken in his first assistant, Dr. James J. Monahan, as his partner, and will take a rest for a year.

INDIANA

Wills Estate to Medical College.—The late Dr William Flynn of Marion has willed his entire estate, valued at about $30,000, to the Indiana Medical College, in which he was a member of the faculty for many years.

Grant County Hospital.—The Grant County Hospital Association has requested the county commissioners to make an appropriation of $50,000 for a county hospital to be built at Marion. Mr. Robert J. Spencer of that city has offered a site for the hospital, free of incumbrance.

Personal.—Dr. George M. Kakin, LaPorte, believed to be the oldest active practitioner in Indiana, is reported to be critically ill.——Dr. Adoniram J. Banker, Columbus, is reported to be critically ill in Indianapolis.——Dr. Hugh D. Wood, Angola, was seriously injured in a fall on a slippery sidewalk, September 18.

Hospital Trustees Resigned.—At a meeting of the Good Samaritan Hospital Board, held in Vincennes, September 5, a petition was read, signed by thirty-five members of the Knox County Medical Society, and a resolution of the Vincennes physicians was presented at a formal meeting which called for a radical change in the management of the hospital. With the expressed desire to reestablish harmony, three members of the board of trustees resigned.

IOWA

Personal.—Dr. Harley G. Ristine, Fort Dodge, was seriously injured while cranking his automobile, September 20.——Dr. Daniel Johnson Glomset has been placed in charge of the pathologic and bacteriologic departments of Drake University.——Dr. Paul Eugene Lineback has been appointed instructor in anatomy in the Drake University, Des Moines.——Dr. Jasper E. Guernsey, Olin, was injured in a runaway accident in Chicago, September 8.

Medical Library for Sioux City—Dr. John E. Garver donated his medical reference library to the Sioux City Medical Library Association. Several others have made similar gifts, and it is hoped that the library will become a permanent institution.

KENTUCKY

Tri-Medical Society Organized.—Physicians of Logan, Simpson and Warren Counties met at South Union, September 12, and organized the Tri-Medical Society.

State Health Car.—The Kentucky Association for the Study and Prevention of Tuberculosis is touring the state with a car fitted up as a traveling health exhibit, in charge of Mr. Eugene Kerner, secretary of the state association, and an assistant. The car is well stocked with charts, mottoes and model houses, showing where the dangers from diseases lie and how they can be prevented; and an illustrated lecture on "What Everybody Ought to Know About Consumption" is delivered at each stopping place.

LOUISIANA

Bequest for Home for Incurables.—By the will of the late Joseph E. Burguieres, $50,000 is devised to establish the Burguieres Home for Incurables, which is to be placed under the charge of the Sisters of Charity of New Orleans.

New Department in Medical College.—The Medical Department of Tulane University announces the inauguration of a department of tropical medicine, hygiene and preventive medicine, beginning October 1, in charge of Dr. Creighton Wellman and staff. Laboratory courses, clinics and lectures will be given in the regular junior and senior classes, in addition graduate courses are offered, for which certificates will be issued, counting toward special degrees to be created as soon as the Tulane School of Tropical Medicine is in force.

Antituberculosis Work.—During the last year the Louisiana Antituberculosis League has abandoned its former camp at St. Tammany Station, which was left practically inaccessible on account of the abandonment of that portion of the railroad, and has opened a new and well-equipped sanitarium for curable cases at Camp Hygeia in the same parish, 5 miles west of Slidell.——On September 4 the cottages at Camp Hygeia, erected by the Pythian Antituberculosis League, the Junior Order of United American Mechanics and two councils of the Daughters of America, were formally dedicated.——A site for the cottage to be erected at Camp Hygeia by the union printers' organization has been selected.

MASSACHUSETTS

Measles.—The White Star steamer *Romanic* from Mediterranean ports reached quarantine September 7, with three cases of measles aboard, but no indication of cholera. The steerage passengers were landed at Gallup's Island, where they were detained for forty-eight hours.

Personal.—Dr. Newell C. Bullard, North Attleboro, is reported to be in a serious condition at the Emerson Hospital, Boston, as the result of an automobile accident.——Dr. William J. Gallivan, Boston, former chairman of the Boston school board, has been selected for head of the bureau of school hygiene, under the direction of the Boston Board of Health, vice Dr. Paul Carson, resigned.——Dr. Francis X. Crawford, South Boston, has been appointed chief physician of the board of Boston, vice Dr. William M. Gay, resigned.

MICHIGAN

Banquet to Dr. Carstens.—A complimentary banquet was given by the Wayne County Medical Society, September 26, at the Hotel Cadillac, Detroit, in honor of Dr. James Henry Carstens.

Officers Installed.—At the first meeting of Wayne County Medical Society, September 18, after the summer vacation, the reports of the retiring officers showed that the society has 525 active members, an increase of 243 during the year; that it has a library of 12,000 volumes; that a nurses' directory of 250 names has recently been added and the café and weekly bulletins are more than self-sustaining. The following officers were installed: president, Dr. Henry O. Walker; vice-president, Dr. Benjamin R. Schenck; and secretary-treasurer, Dr. Robert C. Jamieson.

Personal.—Dr. and Mrs. Louis W. Toles, Lansing, sailed for Europe September 13.——Dr. Eugene W. Mullen, Newberry, formerly a member of the staff of the Newberry State Hospital, has resigned to accept a position in the Agnews (Cal.) State Hospital.——Dr. Francis J. W. Maguire, who has been seriously ill with septicemia, due to an operation wound, is reported convalescent.——Dr. Gilbert V. Chamberlain, Flint, has been appointed a member of the pension board of Flint, vice Dr. Hiram H. Bardwell, resigned.——Dr. Russell P. Wixom has been elected president of the Northeastern Detroit Business Men's Association.——Dr. and Mrs. Leslie G. Rhodes, South Haven, have returned from Europe.

MINNESOTA

Sanitarium Nearly Ready.—The new St. Louis County and Duluth tuberculosis sanitarium, now under construction, will be ready January 1. The main building is already nearly completed.

New Buildings on Campus.—The two new buildings for the University of Minnesota, Millard Hall and the Institute of Anatomy, are progressing well toward completion, and it is expected that they will be ready for occupancy within the next ten months. They are located close to the hospital on the new campus.

Elliot Hospital Dedication.—At the dedicatory exercises of the Elliot Memorial Hospital of the University of Minnesota, September 5, a brief notice of which appeared in THE JOURNAL of September 16, the dean, Dr. Frank F. Wesbrook, Minneapolis, presided. Address was made by president George Edgar Vincent, president of the University of Minnesota; the history of the hospital movement was described by Dr. James E. Moore; Frank M. Elliot spoke on the endowment of the Elliot Memorial Hospital. E. L. Carpenter responded for the donors of the hospital site; Dr. Charles Lyman Greene gave an address on "Educational Value of the University Hospitals;" Drs. Rollo C. Dugan, Eyota; Frank H. Alexander, Barnesville; Edward L. Tuohy, Duluth, responded for the alumni of the university hospitals; Dr. William J. Mayo, Rochester, considered the university hospitals as an economic asset of the state, and Dr. Richard Olding Beard, Minneapolis, spoke on the Training School of Nurses of the University. The cornerstone of the Institute of Anatomy was laid, after which the memorial tablets were unveiled and the keys of the hospital were delivered to the superintendent by President Vincent. The superintendent of the hospital, Dr. S. B. Baldwin, then escorted the visitors through the building.

NEW YORK

Industrial Poisonings to be Reported.—The State Department of Health has called the attention of local health boards to the fact that section 58 of the labor law became a law June 6, and went into effect September 1. This law requires that every medical practitioner attending on or called in to visit a patient whom he believes to be suffering from poisoning from lead, phosphorus, arsenic or mercury or their compounds, or from anthrax, or from compressed-air illness, contracted as a result of the patient's employment, shall send to the Commissioner of Labor a notice stating the name of and full postal address and place of employment of the patient and the disease from which, in the opinion of the medical practitioner, the patient is suffering, with such other and further information as may be said to be required by the said commissioner. If any medical practitioner, when required by this section to send a notice, fails forthwith to send the same, he shall be liable to a fine not exceeding $10. It shall be the duty of the Commissioner of Labor to enforce this section and he may call on the state and local boards of health for assistance. This is the first law of this nature to go into effect on this side of the Atlantic.

New York City

Special Meeting of Society.—The Eastern Medical Society of New York held a special meeting at the Academy of Medicine September 20, at which Dr. Albert A. Gray, Glasgow, Scotland, was a special guest of the society and delivered an address.

Old Ferryboat Becomes School.—The Committee for the Prevention of Tuberculosis has obtained a loan of the old ferryboat *Rutherford* and has had it fitted up as a school for tuberculous children. Here the children do all their school work and have their meals in the open air and there are also some accommodations for older patients. A physician and nurses are in constant attendance.

Monthly Bulletin a Success.—Although this publication has only been in existence about a year the edition has already been enlarged twice and a still larger edition is now contemplated. It is hoped eventually that a copy of the bulletin may be sent to every physician in the city and to teachers, clergymen and social workers as well. Applications for the bulletin may be made to the editor of the *Monthly Bulletin of the Department of Health*, Fifty-Fifth Street and Sixth Avenue.

Buffalo

Ask Appropriation for Indigent Tuberculosis Patients.—The health commissioner has asked the city to appropriate $1,200 for the care of indigent patients suffering from tuberculosis. This money is required for eggs, milk and other supplies.——The department of health has recently appointed six nurses to do field work in tuberculosis. This work was formerly carried on by the district nurses, but the city has decided to take charge of this work.

NORTH CAROLINA

Personal.—Dr. Wyatt P. Exum, Goldsboro, is reported to be seriously ill at his home.——Dr. David A. Stanton, John T. Burrus, William M. Jones, William J. McAnally and James R. Reitzel have been elected members of the board of health of High Point.

Municipal Laboratory Recommended.—At a meeting of the board of health of Asheville, September 14, it was decided to recommend to the aldermanic board that $5,000 be appropriated for the establishment of a city laboratory of which L. M. McCormick, chief of the sanitary department, is to be in charge.

OHIO

Clinic for Children in Dayton.—A clinic for the treatment of children under 3 years has been established by the Dayton Flower and Fruit Mission. The clinic is to be conducted every Monday, Wednesday and Friday afternoon, and will be in charge of Dr. Alvin L. Light.

Child Hygiene Bureau Organized.—At an open meeting of the board of health of Cleveland, September 7, the organization of a bureau of child hygiene was perfected with the appointment of Dr. Henry J. Gerstenberger as chief of the bureau, and Drs. Fred Beckel, Carlos E. Pitkin, Richard L. Jett, C. F. Zantiny and Alvin S. Storey, in charge of the five dispensaries now in operation.

Personal.—Dr. Clayton B. Conwell, Cincinnati, has resigned as superintendent of the Ohio State Sanatorium for Tuberculosis, Mount Vernon, and will practice in Cincinnati.——Dr. Asa C. Messenger has been reelected dean, and Dr. Clark M. Galloway, Xenia, secretary of the volunteer medical and surgical staff of the Ohio Soldiers' and Sailors' Orphans' Home, Xenia.——Dr. Russell H. Wilson, Martins Ferry, has been appointed chief surgeon for the United Fruit Company's hospital at Bocas Del Toro.——Dr. Sterling B. Taylor, Columbus, who has been ill in Mount Clemens, Mich., is reported to be improving.——Dr. Albert G. Henry broke two ribs and sustained internal injuries by a falling wall during a fire in North Baltimore, September 9.

OKLAHOMA

Free Antitoxin.—The State Health Department announces that the free distribution of diphtheria antitoxin to those who are unable to purchase it will soon be commenced.

Personal.—Dr. John O. Butler, Crescent, is reported to be seriously ill with typhoid fever.——Dr. R. R. Smith, assistant city physician of Muskogee, was operated on for appendicitis in Kansas City recently.——Dr. William E. Dicken has succeeded Dr. John W. Riley, resigned, as city physician of Oklahoma City.

PENNSYLVANIA

Dispensary Buys Farm.—The Kensington Dispensary for the Treatment of Tuberculosis has purchased the Lennig farm in Upper Providence township, at an expense of nearly $7,000. The farm contains 141 acres and will be used by the dispensary in its work against tuberculosis.

Official Organ of Medical Society Appears.—The *Dauphin County Medical Academician*, the official organ of the Dauphin County Medical Society and the Harrisburg Academy of Medicine, made its first appearance September 13. The magazine is to be issued on the fifteenth day of each month, and its office of publication is at the Harrisburg Academy of Medicine Building.

Personal.—Dr. Clifton Guy Hughes, Punxsutawney, sustained severe injuries when his automobile was caught between two street cars moving in opposite directions, September 14.——Dr. Charles Long, Altoona, was tendered a banquet and presented with a handsome pipe by a number of his friends, on the occasion of his 70th birthday anniversary, September 12.——Dr. William Le Roy Marks has been appointed resident physician to the Carnegie Technical Schools, vice Dr. Walter B. Orbin, Pittsburg, resigned.

Memorial Hospital Opened.—The J. C. Blair Memorial Hospital, Huntingdon, opened its doors for patients on September 4. Drs. Francis P. Ball, Lock Haven, and Theodore L. Chase of Philadelphia, delivered addresses. Dr. George G. Harman, Huntingdon, was chosen president of the staff and Dr. Harry B. Fetterhoof, secretary.

Receipts of Tuberculosis Day.—Clerks of the Pennsylvania Trust Company and officers of the Berks County Tuberculosis Society have finished opening envelopes and counting the contents, received on Tuberculosis Day for the maintenance of the Neversink Mountain Tuberculosis Sanatorium. Although a number of envelopes are yet to be received, the total reached $5,944.85.

Censorial District Meeting.—The eighth annual meeting of the Sixteenth Censorial District of the Medical Society of the State of Pennsylvania which includes Montour, Snyder, Northumberland, Columbia, was held at Selinsgrove, September 8. Dr. John B. Cressinger, Sunbury, was elected president, and Dr. Luther B. Kline, Catawissa, secretary. Danville was selected as the next place of meeting.

Philadelphia

School Campaign Against Tuberculosis.—The Pennsylvania Society for the Prevention of Tuberculosis has placed its winter campaign of antituberculosis education among the children of the public schools of Philadelphia, which opened September 11, in charge of Dr. Howard Fussell, special demonstrator and lecturer of the society. Dr. Fussell has a tuberculosis exhibit which he will establish at each school, devoting from one to two weeks to a school. The exhibit consists of photographs, pictures and charts, and, in addition, Dr. Fussell delivers talks on hygiene to the children in the various rooms of the schools.

Institute of Anatomy Dedicated.—The dedication of the Daniel Baugh Institute of Anatomy of the Jefferson Medical College was observed with appropriate ceremonies, September 26. Dedicatory addresses were made by Hon. William Potter, president of the board of trustees and Dr. Edward Anthony Spitzka, professor of applied anatomy. At the same time the portrait of Mr. Daniel Baugh, the donor of the building with all modern appliances, was presented by the board of trustees and placed in a conspicuous position in the new institute. Hereafter, the teaching of anatomy and its allied sciences will take place in this building.

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(From Our Regular Correspondent)

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MEDICAL NEWS

PARIS LETTER

(From Our Regular Correspondent)

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What this society proposes to do is this: (1) to provide the blind workers with books on technical subjects—necessary information in the following of their professions—catalogues, references and all the practical information which will enable them to fill positions commanding salaries as large as those drawn by workers who have the use of their eyesight; (2) to establish free district libraries where the blind people can find the means of educating or amusing themselves, in the same way that those who can see may do; (3) to publish and sell books and music for the use of the blind, at the most moderate prices; (4) to give advice to any of them, and particularly to the workers, who will find them willing to give any help which they may need—except money aid, which they make it a practice never to give; (5) and lastly, to propagate M. Vaughan's method, or any other similar method, for printing books for the blind.

The first effort of the society will expend itself on the printing of technical books, which will be sold at a minimum price, or even furnished gratuitously to the extremely poor persons, as the resources of the society permit.

As soon as the number of subscriptions warrant it, centers will be established in the provinces to attract future libraries there. At Marseilles, Dijon, Lyons, Tours, Arras and Lille groups of people are offering quarters and the necessary personnel. The committee of patronage, which is disinterestedly devoting itself to launching the Société philanthropique d'impressions pour les aveugles combines many personalities and different philosophic and political opinions.

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BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Sept. 7, 1911.

Personals

On the occasion of the centennial jubilee of its foundation, which was celebrated, September 2, the medical faculty of Christiana, gave the honorary title of doctor to Professor Rubner, Professor Rabl of Leipsic and Professor v. Strümpel of Leipsic.

A new chair has been established at Tübingen for skin and venereal diseases and Professor Linser has been appointed the incumbent.

The Distribution of Persons Engaged in the Treatment or Care of Disease in the German Empire

In accordance with a resolution of the federal council (*Bundesrat*) in 1909, an investigation as to the distribution of persons engaged in the treatment of disease, of pharmacies and of persons engaged in pharmacy and nursing in the German empire, was undertaken May 1, 1909. From the results just published by the imperial health office, the following state-

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BERLIN LETTER

(*From Our Regular Correspondent*)

BERLIN, Sept. 7, 1911.

Personals

On the occasion of the centennial jubilee of its foundation, which was celebrated, September 2, the medical faculty of Christiana, gave the honorary title of doctor to Professor Rubner, Professor Rabl of Leipsic and Professor v. Strümpel of Leipsic.

A new chair has been established at Tübingen for skin and venereal diseases and Professor Linser has been appointed the incumbent.

The Distribution of Persons Engaged in the Treatment or Care of Disease in the German Empire

In accordance with a resolution of the federal council (*Bundesrat*) in 1909, an investigation as to the distribution of persons engaged in the treatment of disease, of pharmacies and of persons engaged in pharmacy and nursing in the German empire, was undertaken May 1, 1909. From the results just published by the imperial health office, the following statements are taken: The number of licensed physicians of the German empire has increased by 23.59 per cent. since 1898, the total now being 30,558. The number of physicians connected with institutions has increased at the rate of 60.1 per cent. in contrast with the percentage increase of 20.28 among physicians who do private practice. The large cities show the greatest increase, while in the relatively smallest communities a retrogression can be shown. Generally the public in large cities is four times as richly supplied with physicians as the people of the smallest communities.

The number of professional nurses has nearly doubled in the last eleven years, reaching the number of 68,818. They are classified as domestic (20,026) and institutional (48,792), also as recognized by the state (23,681) and not recognized by the state (45,075), and finally into association nurses and others. The relatively greater participation of the male sex in the entire increase among nurses is not to be denied. The Roman and evangelical sisterhood nurses form respectively 48.3 and 29.2 per cent. of the association nurses.

The persons engaged in the professional treatment of the sick who are not licensed, are equal in number to 17.1 per cent. of the number of physicians in private practice. Altogether they number 4,468, and since 1887 have experienced an increase of 160.8 per cent. and the non-licensed medical women have increased to the extent of 333.4 per cent., as contrasted with the non-licensed men who have increased by 123.4 per cent. The group of midwives has receded in proportion to the population from 7.72 in 1876 to 5.94 per 1,000; this corresponds with the decrease in the birth-rate. The licensed veterinary surgeons have increased since 1887 from 3,113 to 3,813, and 69.7 per cent. of all veterinary surgeons are engaged in the official inspection of cattle and meat.

With reference to pharmacists, the statistics show that a relative decrease has occurred, for in 1895 there were 0.99 pharmacists for every 10,000 inhabitants, in 1909, 0.97.

Cerebrospinal Meningitis in Prussia in 1910

In 1910 there were officially reported 369 cases of cerebrospinal meningitis as opposed to 1,030 in the year 1909. Of these thirty-seven cases were shown to belong to other diseases of the brain and in twenty-four cases the diagnosis was doubtful. Most of the cases occurred, as in the previous year, in the provinces of Düsseldorf, Arnsberg and Oppein. According to season, the largest number of cases occurred, as in the previous year, in spring and winter; 60 per cent. were of the male sex, showing again a preponderance over the females. As to the age they were generally children from 6 to 10 years. Of the patients 136 had recovered at the end of 1910 and 194, or about 60 per cent., had died. Death occurred most frequently in the first week, namely, in seventy-two cases. Of 136 who recovered, so far as facts are available, only two cases of permanent injury to health remained, namely, deafness. The diagnosis was generally confirmed by bacteriologic examination. According to the reports, forty-one patients had been treated with meningitis serum; of these twenty-three recovered and twelve died.

Reduction of the Excess of Females in Prussia

In almost all European countries the female sex has for a long time outnumbered the male; only in the East do the men exceed the women in number. This has been numerically determined in Roumania, Servia, Bulgaria and Greece. In Turkey the sexes are not separated in the census, but it is certain that there also the male sex is predominant. The reason for this difference is partly to be found in the greater tendency of men to shift about from place to place. Only when exact facts are obtainable with reference to the sex at birth can it be determined how far the greater or less neglect of one or other sex, especially during the period of infancy, is responsible for the varying distribution. In Germany there are annually about 60,000 more boys born than girls. In spite of this, for various reasons, the female sex outnumbers the male to a marked degree. But there is one peculiar fact, namely, that in the last census period, the excess of females over males in Germany has diminished. If this ratio continues, in thirty years or less the sexes will be equal in numbers. At present there are for each 1,000 persons, 506 women and 494 men. If it is assumed that there is a general variation in favor of the male sex, it may be explained by a lesser tendency of the men nowadays to emigrate, and by the number of persons who have moved to Prussia from elsewhere in the empire. Still another factor is the gratifying lowering of the infant death-rate, to which the male sex, in consequence of its larger proportion, contributes to a greater extent than the female.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, Sept. 23, 1911.

A Technical Museum with a Medical Department

Some time ago a private committee organized to erect in Vienna a permanent technical museum. The government not only granted a large sum of money but also caused the technical schools to donate appropriate subjects to the museum. One of the divisions will be devoted to public health, medicine in general, and sanitation, and men of the profession all over the world are invited to contribute any object they might think of value for this institution. A museum of this kind will undoubtedly be equally interesting to the general practitioner, the medical student and the public health official. The committee has already been offered a number of old medical instruments, mixtures, laboratory and pharmacy outfits, including a handsome collection of quack remedies, the compositions of which are analyzed and exhibited. The sanitary exhibit will include the technical details of pure food- and water-supplies, methods and apparatus for the removal of town garbage and waste, filtering-beds and smoke-abating contrivances, and also apparatus and outfits for first aid to the injured, especially in the case of railway accidents, coal-mine explosions, and injuries received in war. The cooperation of medical experts will ensure a proper selection of the exhibits offered.

Protection of Laborers in the Sugar Factories and the Printing Trade

Two ordinances of the ministry of public works, dealing with the conditions in the sugar industry and the printing trade, have an important bearing on the health of a large percentage of the laboring class. These regulations are the outcome of inquiries by a special accident commission and are in strict harmony with the special progress of work in the two mentioned lines of industry. In the sugar industries, precautions to be taken and means necessary for prevention of scalding, cauterizing, poisoning or producing of dangerous dust are enumerated. A periodic regular examination of apparatus which are deemed especially dangerous (recipients, centrifuges, etc.), is made compulsory, and hygienic precautions for the protection of the consumers of the sugar are also added. The regulations concerning the printing trade are directed chiefly against the dangers of lead-poisoning. Thus the minimum of volume of air per laborer has been fixed proportionally with the richness in lead dust in the various industries; proper ventilation is made compulsory. The walls and floors of the workshops must be cleaned at least twice a week and subterranean work-rooms are not allowed at all where lead is used. Female and juvenile workers may not be employed for certain kinds of labor involving great exposure to the risk of lead-poisoning. Colors containing lead must be stated as such and strict observation of the prohibition of eating, drinking and smoking while at work is rigidly enforced. One provision is that the workers in industries using lead shall be examined periodically by public health officers who will be empowered to order a person to stay away from work if found to be affected by plumbism. The readmission of such persons will be conditional on producing a certificate of health. The regulations will go into force Jan. 1, 1912, in the existing factories, and at once in those which will be erected between now and that date.

A Supply of Serum Against Serpents for the Austrian Army

The two army corps stationed in the southern districts of the empire have been provided for some time with a large amount of antitoxic serum for use in cases of soldiers being injured by serpents. The excessive heat and dryness of the temperature has caused a large increase of these inhabitants of the rocky and dry districts and especially the viper has appeared in numbers not seen before. Acting on a suggestion of the head of the army medical corps, the serum was obtained in a sufficient quantity to supply all staff hospitals in the area in question, and the regimental surgeons have received careful instructions how and when to use it. It was also necessary to provide a number of syringes required for the use of this serum. Every year a few cases of fatal injuries by vipers have been reported, mostly from the civilian population. The application of permanganate of potash in crystals to the wound was not always successful, and so the more modern method has been recommended and it will be available both for the military and civilian patients requiring it.

Miscellany

"An Example to Follow.—It is evident that the state of Louisiana has at the head of its board of health a man of unusual enterprise and originality, Dr. Oscar Dowling. He has rightly been described as not only a man of ideas, but a man of action. Reports of what President Dowling has done in and out of Louisiana show that not only has he enforced sanitation and laws of healthful living, but that he has taught their principles in an efficient and novel way. The best example of this is his famous health train, which traveled nearly seven thousand miles and visited over two hundred and fifty towns and cities in the state. Over one hundred and fifty thousand people along the line of this route visited the laboratory exhibits on the train and saw the moving-picture lectures. This educational work was so successful and valuable that Dr. Dowling took the traveling exhibit to the. . . [American Medical Association] convention at Los Angeles. . . and returned across many states, offering everywhere a demonstration of the causes and methods of cure for disease. One car had an additional exhibit showing the methods of preventing disease; a second taught how food should be prepared and guarded; a third was for the accommodation of Dr. Dowling and his assistants. The plan, in *Louisiana at least, included not only education but inspection*, as is shown by the following extract from a newspaper account:

> "On the arrival of the train at a town, the doctor was off on his tour of inspection—a thing little known before his arrival. Without fear or favor he inspected everything, the water-supply, the treatment of sewage and the disposal of garbage, the slaughter-houses, the markets, the bakeries, the hotels, the restaurants, the schools, the jails, the sanatoria, the railroad stations; and without fear or favor he reported on them all.

"Twenty years ago such an effort to bring about right health conditions was unheard of, and any one who proposed it might have been laughed at as a dreamy theorist."—*Outlook*, Sept. 23, 1911.

Suggestions in Science.—Because every discovery becomes the basis for further study, the imagination of the investigator *is constantly stimulated. New facts suggest in turn* other facts and point to unsuspected relations between things that have long been known. Bayliss and Starling's discovery of a natural chemical stimulant which induces secretion of the pancreas led directly to the explanation of continued gastric secretion, and also to finding the marvelous mechanism by which the mammary glands are prepared for the giving of milk. Thus, though the interests of the man of science seem at the moment narrow and restricted, they may nevertheless lead his thought out into many diverse realms of knowledge. These excursions of the imagination offer repeated suggestions for fresh adventure. The look, therefore, is always forward to what may be seen when the next step is taken. Seeking new things becomes in time a fixed habit. Past achievements neither satisfy interest nor hold attention—they become fused with the established routine from which it is happiness to escape. The chance of beholding unsuspected wonders, or the possibility of finding that something imagined is really true is a constant incitement to further search and furnishes the zest and interest which are among the best rewards of the investigator.—Cannon in *Science*.

Roentgen-Ray Treatment of Lymphadenoma.—The x-rays produce a rapid diminution in the size of the glands, and it is said that life is thus prolonged. X-rays destroy the lymphoid tissue, but leave the fibrous tissue unaffected. It must be borne in mind that by free application of x-rays the lymphocytes and the healthy lymphoid tissues may be too extensively destroyed and that harm may thus be done. It has been noted that in some instances although rapid diminution in size follows x-ray treatment the glandular enlargement returns very rapidly when the treatment is stopped. It appears that treatment by radium would be difficult from the large amount of radium which would be required to deal with the extensive lesions.—H. D. Rolleston, in the *Practitioner*.

Marriages

HOWARD CHARLES RANDOLPH, M.D., Aberdeen, Wash., to Miss Lillian Elizabeth Burke of Ann Arbor, Mich., at Seattle, September 11.

WILLIAM C. GIBSON, M.D., Empire, C. Z., to Miss Edith M. Seymour of Petoskey, Mich., at Cristobal, C. Z., August 31.

HOWARD BULKELEY HAYLETT, M.D., Hartford, Conn., to Miss Hortense Idell Dunham of Burlington, Vt., August 31.

ARTHUR M. BISHOP, M.D., Chicago, to Mrs. Della Robbins Burnett of Good Hope, Ill., at Galesburg, August 26.

HERBERT C. CLARK, M.D., Ancon, C. Z., to Miss Jessie Sanderson of Norfolk County, Va., at Ancon, September 2.

WALDEMAR RUSCHE, M.D., Giessen, Germany, to Miss Louise W. Treide, at Baltimore, September 14.

EARL H. COLEMAN, M.D., Los Celtos, Cal., to Miss Nain Taylor of Curpentino, Cal., September 6.

ALBERT BREWER LANDRUM, M.D., to Miss Flora Esther Rohe, both of Columbus, O., June 12.

JOHN D. MACLEAN, M.D., Greenwood, B.C., to Miss Minnie Watson, at Tara, Ont., recently.

JOHN J. KERWIN, M.D., to Miss Helen Marie White, both of Chicago, September 12.

Deaths

Maurice Dwight Clarke, M.D. Harvard Medical School, 1882; of Haverhill, Mass., a member and once vice-president of the Massachusetts Medical Society; for twenty-two years secretary of the Essex North District Medical Society; formerly a member of the Haverhill (Mass.) Board of Health and a member of the local pension board; formerly consulting physician to the Danvers State Hospital; surgeon and chief of staff of the Hale Hospital, and secretary and treasurer of the Haverhill Medical Club; died in Danvers, Mass., September 7, aged 59.

Granville Wilson Tinkham, M.D. Harvard Medical School, 1871; of Weymouth, Mass.; a member of the Massachusetts Medical Society and once president of the South Norfolk District Medical Society; for several years medical examiner for the coroner of Weymouth district; died in the Boothby Hospital, Boston, September 9, a few days after surgical operation, aged 63.

George D. Crandall (license, Tioga County, Pa., 1881); a member of the American Medical Association, Erie Railroad Surgeons' Association and International Association of Railway Surgeons; surgeon of the Tioga Division of the Erie Railroad; surgeon in charge of the Cottage State Hospital, Blossburg; died at his home in that place, August 22, from appendicitis, aged 67.

Charles Cornelius Payne, M.D. University of Kansas, Kansas City, 1907; a member of the Kansas Medical Society and for a time a lecturer of the faculty of his alma mater; died at the home of his wife's mother in Lawrence, September 14, from the effects of a gunshot wound of the chest, believed to have been self-inflicted with suicidal intent, aged 38.

John Craddock Drennan, M.D. Vanderbilt University of Nashville, Tenn., 1893; state senator from the district made up of Cannon, Rutherford and De Kalb counties; died at his home in Woodbury, Tenn., September 13, from the effects of a gunshot wound, believed to have been self-inflicted with suicidal intent, aged 45.

George William Reynolds, M.D. University of Buffalo (N. Y.), 1880; Rush Medical College, 1897; for many years a member of the American Medical Association; chief of the gynecological staff of St. Joseph Hospital, Chicago; died in that institution, September 9, from chronic interstitial nephritis, aged 57.

Eugene Arthur Hults, M.D. Hahnemann Medical College, Philadelphia, 1886; from 1895 to 1898 health officer of Perth Amboy, N. J., and since May 15, 1911, health officer of the port; died at his home, September 4, from nephritis, aged 50.

Edgar M. Griffith, M.D. Cooper Medical College, San Francisco, 1876; died at his home in Boyle Heights, Los Angeles, September 7, from nephritis, aged 53.

Abraham M. Neyman, M.D. Western Reserve University, Cleveland, O., 1853; a member of the Medical Society of the State of Pennsylvania, and a charter member of the Butler County Medical Society; died at the home of his daughter in Butler, September 16, from senile debility, aged 65.

Elmer Wallace Hamilton, M.D. Jefferson Medical College, 1907; a member of the American Medical Association; of Newtown, Pa.; formerly a member of the staff of the New Jersey State Epileptic Colony, Skillman; died in a hospital in Philadelphia, September 1, aged 32.

Alton D. Du Puy, M.D. University of Louisville (Ky.), 1886; for twenty years a practitioner of San Antonio, Tex.; for twelve years chief surgeon of the International and Great Northern Railroad; died at his home, September 8, from heart disease, aged 48.

D. O. Fruth, M.D. Columbus (O.) Medical College, 1879; of Los Angeles, Cal.; a practitioner of Chicago until 1897, and again from 1903 to 1909; died at the home of his sister near Fostoria, O., September 13, from disease of heart and kidneys, aged 55.

John W. Ballard, M.D. Medical College of Ohio, Cincinnati, 1879; for thirty-five years a practitioner of Logansport, Ind., and for three terms coroner of Cass County; died at his home in Logansport, September 9, from cerebral hemorrhage, aged 56.

Thomas Richard Ward, M.D. State University of Iowa, Iowa City, 1873; Bellevue Hospital Medical College, 1882; surgeon to the Swedish Hospital, Omaha; died suddenly at his home in that city, September 10, from heart disease, aged 64.

Clarence Cullens, M.D. Kentucky School of Medicine, Louisville, 1871; a Confederate veteran; probate judge of New Albany County for one term; died at the home of his sister in Pontotoc, Miss., September 8, from bronchitis, aged 69.

Leonard Chester Backus, M.D. University of Michigan, Ann Arbor, 1887; a member of the Ohio State Medical Association; formerly of Fayette, O.; died at his home in Ann Arbor, Mich., September 8, from ptomain poisoning, aged 50.

J. H. Smith, M.D. Atlanta (Ga.) Medical College, 1877; for several years president of the Iowa Farmers' Insurance Company, Cedar Rapids, with a winter residence in Orlando, Fla.; died at his home in Cedar Rapids, August 30.

Edward Desmond, M.D. Tulane University, New Orleans, 1906; of Spokane; a member of the Washington State Medical Association; died in the Sacred Heart Hospital, Spokane, September 11, from typhoid fever, aged 41.

Elisha Sergeant Athearn, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1865; formerly of Oberlin, Kan., and North English, Ia.; died at his home in Boulder, Colo., September 4, from senile debility, aged 76.

Oliver H. Arnold, M.D. Harvard Medical School, 1867; for a time connected with Brown University, Providence, R. I. in the department of biology and comparative anatomy; died at his home in Providence in June, aged 70.

William Francis Pier, M.D. Bellevue Hospital Medical College, 1878; of Avoca, Pa.; formerly coroner of Luzerne County, and a school director; died at his summer home in Elmhurst, September 5, from diabetes, aged 55.

William Henry Viney (license, Massachusetts, years of practice, 1894); surgeon of New York Volunteers during the Civil War; a Forty-Niner; died at his home in Springfield, Mass., September 8, aged 85.

Walter Sullivan Holladay (license, Marion County, Ala., 1888); for ten years a member of the board of censors of the Marion County Medical Society; died at his home in Hamilton, September 7, aged 59.

Gabriel Miesse, M.D. Eclectic Medical Institute, Cincinnati, 1847; a pioneer practitioner of Lancaster, O.; died at the home of his cousin at Columbus, O., September 11, from heart disease, aged 75.

Robert P. Keesee, M.D. Leonard School of Medicine, Raleigh, N. C., 1901; a member of the National (Colored) Medical Society; died at his home in Annapolis, Md., August 26, from appendicitis, aged 32.

Phoebe E. Harding, M.D. (license, Ohio, years of practice, 1890); for more than forty years a practitioner; died at her home in Marion, O.; May 29, 1910, from cerebral hemorrhage, aged 66

William Nelson Fry, M.D. University of Vermont, Burlington, 1887; a member of the Iowa State Medical Society; died at his home in Marcus, September 12, from cerebral hemorrhage, aged 46.

Andrew Jarritte Pool (licensed, Arkansas, 1903); for thirty-eight years a practitioner of Georgia, Texas and Arkansas; died at his home in Mena, Nov. 30, 1910, from cerebral hemorrhage, aged 59.

William Fritchey Roth, M.D. Hahnemann Medical College, Philadelphia, 1878; of Manheim, Pa.; died in St. Joseph's Hospital, Lancaster, Pa., September 3, from intestinal obstruction, aged 55.

Benjamin W. Stauffer (license, Lebanon County, Pa., 1881); for nearly sixty years a practitioner of Campbelltown; died at his home in that place, September 10, from senile debility, aged 85.

Robert Chambers Moorehead, M.D. Baltimore (Md.) Medical College, 1886; formerly of Washington, Pa.; died suddenly at his home in Pitcairn, September 7, from heart disease, aged 57.

James M. Fry, M.D. Kentucky School of Medicine, Louisville, 1876; a Confederate veteran; died at his home in Wills Point, Tex., September 10, from cerebral hemorrhage, aged 60.

Dugald Leitch McAlpine, M.D. University of Toronto (Ont.), 1863; of Vancouver, B. C.; died in that city, April 24, from the effects of a street car accident four years before, aged 76.

Endyman F. Graham, M.D. University of Tennessee, Nashville, 1891; of Marietta, Okla.; a member of the Oklahoma State Medical Association; died in Chicago, September 5.

Tolman F. Andress, M.D. (license, Kansas, 1901); an eclectic practitioner for forty-three years; died at his home in Liberty, Sept. 10, 1910, from valvular heart disease.

Francis Milton Cragin, M.D. Homeopathic Medical College of Pennsylvania, Philadelphia, 1860; died at his home in Norwood, Mass., in June, from heart disease, aged 77.

John N. Jones, M.D. University of Buffalo (N. Y.), 1898; for two terms coroner of Chemung County, N. Y.; died at his home in Erin, September 5, aged 38.

Eugene F. Rink, M.D. Hahnemann Medical College, Philadelphia, 1877; died at his home in Burlington, N. J., September 6, from heart disease, aged 60.

Archibald A. Strange, M.D. University of Louisville (Ky.), 1889; died recently at his home in Burkesville near Martinsburg, from senile debility, aged 70.

Arnold Carpenter Davis, M.D. Hahnemann Medical College, Chicago, 1881; died at his home in Farina, Ill., Sept. 15, 1910, from acute enteritis, aged 71.

Henry T. Whiting, M.D. Chicago Homeopathic Medical College, 1883; died in his office in Rockford, Ill., September 13, from acute gastritis, aged 73.

Lawson Rosencrans Robinson, M.D. Kansas City (Mo.) Medical College, 1892; of Kansas City; died in Hot Springs, Ark., September 9, aged 49.

Mark W. Allison, M.D. University of Nashville (Tenn.), 1860; died recently at his home near Whitaker, Tex., from nephritis, aged about 75.

Alexander A. Watts, M.D. Savannah (Ga.) Medical College, 1856; died at his home in Montezuma, Ga., in July, from valvular heart disease.

William M. Flowers, M.D. Tulane University, New Orleans, 1880; died at his home in Florence, Miss., September 4, from uremia, aged 55.

George W. Lane, M.D. Atlanta (Ga.) College of Physicians and Surgeons, 1900; died at his home in Helena, Ga., in November, 1910.

John Search Newton, M.D. Jefferson Medical College, 1867; died at his home in Cedarcreek, Ark., in November, 1910, aged 67.

Daniel Stevens, M.D. Bennett Medical College, Chicago, 1878; died at his home in Fairfield, Neb., September 1, aged 74.

John Kubus (license, Pennsylvania, 1908), of Braddock, Pittsburgh; died recently in Kars, Germany, aged 37.

Mason Thomson, M.D. Bellevue Hospital Medical College, 1876; of New York City; died July 6.

Volume LVII
Number 14

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession.

THE BIO-ASSAY OF EPINEPHRIN PREPARATIONS

Report of the Council on Pharmacy and Chemistry

The variable quality of epinephrin preparations having been brought to the attention of the Council on Pharmacy and Chemistry, a committee was appointed to determine means of securing uniformity of composition in these products. In particular the committee was to study the keeping qualities of epinephrin solutions and to propose a uniform method for the valuation of preparations depending for their activity on the blood-pressure-raising principle of the suprarenal gland. The report of this committee was submitted to the Council's Committee on Pharmacology and after discussion was adopted by the Council. Its publication having been authorized, it appears below:

W. A. Puckner, Secretary

The experiments of Reid Hunt, of Sollmann & Brown, and of W. H. Schultz have shown that the various commercial samples of epinephrin solution differ considerably in activity. It may fairly be assumed that these variations are not due to any intentional difference in composition, but may be attributed, in part, to the spontaneous deterioration with age and exposure and in part to different methods employed in standardizing the solutions at the factory.

Deterioration would naturally depend on the preservative used and on the conditions to which the sample has been exposed. Until the influence of these is better known, it would not be fair to set an age limit. It is better to rely on occasional standardization of samples bought in the open market; and it is herewith recommended that arrangements be made to this end. A variation of 15 per cent. from the claimed strength might be permitted without detriment to the public, and with fairness to the manufacturers. It is highly desirable, however, that manufacturers stamp the age of manufacture on the container, to guard against samples which are obviously over-aged.

As regards the method of standardization there seems to be universal agreement that the preference should be given to the blood-pressure method, the principle of which was first published by E. M. Houghton. In order that different observers may obtain uniform results by this method, certain details must be observed rigorously, while others may be left to the discretion of the experienced experimenter—and only such should undertake bio-assays. The subjoined method has been elaborated to unify these essential details.

The question of supplying an absolute standard has not yet been solved. This requires the issuance of an absolutely pure epinephrin, or of samples of known, absolute strength. Until arrangements for this can be made, the results will not be absolute; but the unification of methods is desirable even for comparative experiments.

It is recommended, therefore, that the method about to be described be employed in investigations by the Council, and that it be published for the convenience of other investigators and for the information of the manufacturers; it was further recommended that its use by the latter be left optional at least for the present.

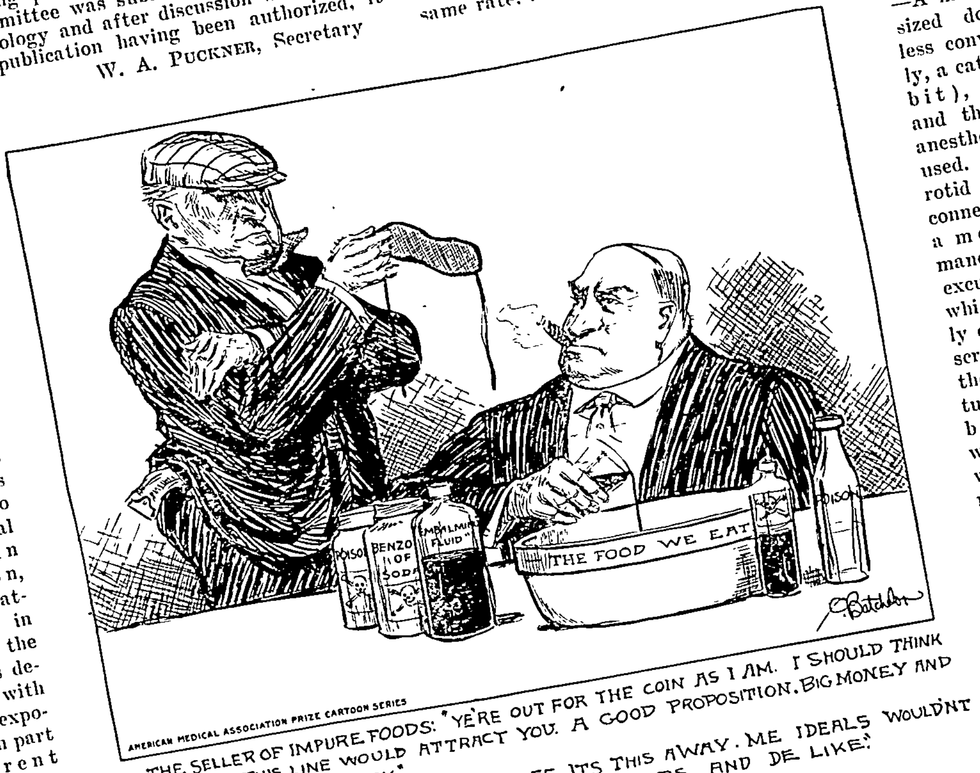
BIO-ASSAY OF EPINEPHRIN PREPARATIONS

The strength of epinephrin preparations is to be stated in terms of pure epinephrin, and must not differ by more than 15 per cent. from the strength as determined by the quantity required to produce the same rise of blood-pressure as is produced by a known quantity of pure epinephrin, when both are injected, in approximately the same dilution, and at the same rate, into an homologous vein of the same mammal.

1. *Preparation of Experiment:*—A medium-sized dog (or less conveniently, a cat or rabbit), weighed and thoroughly anesthetized, is used. The carotid artery is connected with a mercurial manometer, the excursions of which are partly damped by a screw clamp on the connecting tube. It should be made to write on a drum which should revolve slowly—about 1 to 4 inches per minute.

A short cannula of small bore is tied into each saphenous vein close to its junction with the femoral vein and the veins clamped off with small artery clamps. One of these is for the standard solution, the other for the solution to be standardized. These cannulæ are provided with rubber connections so that the dead space between the opening into the vein and that of the standardized 1 c.c. all-glass syringe does not exceed 0.5 c.c. Two all-glass syringes may be used for making the injections, one marked *A* for the standard solution, and the other marked *B* for the solution to be standardized (or graduated burettes may be used). Both vagi are divided and artificial respiration is performed. Care should be used to maintain a uniform anesthesia, complete enough to avoid muscle-movements, throughout the experiment.

2. *Preparation of Solutions:*—The standard solution is prepared by dissolving 1 part of pure epinephrin hydrochlorid in 100,000 parts of 0.9 per cent. sodium chlorid (NaCl) solution.[1]



AMERICAN MEDICAL ASSOCIATION PRIZE CARTOON SERIES

THE SELLER OF IMPURE FOODS: "YE'RE OUT FOR THE COIN AS I AM. I SHOULD THINK THIS LINE WOULD ATTRACT YOU. A GOOD PROPOSITION. BIG MONEY AND LITTLE RISK"
SECOND STORY MAN: "WELL YE SEE ITS THIS AWAY. ME IDEALS WOULDN'T STAND FOR POISONING LITTLE KIDS AND DE LIKE."

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[1] The Hygienic Laboratory, the U. S. P. Revision Committee, or the Council on Pharmacy and Chemistry should issue a standard trituration of epinephrin hydrochlorid with NaCl 1:900; the standard solution may be prepared by dissolving 0.9 gm. of this in a sufficient quantity of distilled water to make 100 c.c.

The preparation to be standardized is diluted with normal saline solution to approximately the same strength, as nearly as can be estimated, of that of the standard used.

3. *Determination of Standard Dose:*—One of the syringes (*A*) and its cannular connection are filled with the standard 1:100,000 solution. The blood-pressure tracing is started on a slowly revolving drum, and the standard solution is injected in the dose of 0.1 c.c. per kilo of body weight at such a rate that 1 c.c. passes into the vein in five seconds. Soon after the blood-pressure begins to return to normal the drum may be stopped.

The rise of the blood-pressure should be about 25 to 45 mm. of mercury (equivalent to 12.5 to 22.5 mm. rise of the writing point of a U-shaped manometer), and it should be submaximal. To determine the latter, a second injection of 0.15 c.c. per kilo should be made, with tracing, which should show a higher rise.

If the dose of 0.1 c.c. per kilo does not give a submaximal rise of at least 25 mm.; or if it gives a maximal rise, the dose should be increased or reduced respectively, until the standard effect is obtained, and this dose should be considered the "standard dose" for this animal. The injections should be made at the same rate (1 c.c. in five seconds), and an interval of at least three minutes should elapse after the blood-pressure has returned to the normal, before another injection is made.

4. *Adjustment of Dosage of the "Unknown" Solutions:*—The solution of the "unknown" sample is diluted as directed under No. 2. The unused cannula in the saphenous vein and syringe *B* are filled with the solution to be tested. A "standard dose" (see last paragraph of No. 3) is injected at the rate of 1 c.c. in five seconds, and at intervals of from three to five minutes, while a tracing is being taken. The rise of pressure is compared with that produced by the standard dose of the standard solution. According to the result so obtained, the unknown solution is diluted or strengthened, and the results controlled by injections (occasionally making an injection of the standard solution to insure constancy in the reaction of the animal). Final equality is tested by injecting alternately the same dose of the standard and unknown solutions until the average rise from three successive injections is equal within 15 per cent.

5. *Use of Several Animals:*—If an animal reacts abnormally to the standard epinephrin solution, the results from that animal shall be rejected. If the reaction changes during the course of the experiment, or if the blood-pressure falls permanently below 80 mm. of mercury, then the results after this change or fall should be rejected, or at least not compared with those obtained before the changes occurred.

The relation of the unknown solution to the standard solution should be determined on several animals, until the results on three (3) animals agree within 15 per cent., and the average of the three (3) animals shall be accepted as the final result.

Diarrhea in Infants.—The treatment advised by R. Rorke (*Western Canada Medical Journal*) for this condition is exceedingly simple. The bowels are evacuated thoroughly by castor oil if there is serious vomiting, or by lavage of the stomach and calomel in small and repeated doses if there is vomiting of a persistent character. The colon is cleared out by irrigation with normal saline solution introduced high up in the bowel. All food is withdrawn for at least twenty-four hours, giving only sterile water, which may be flavored with a little tea. If the digestive tract continues unsettled, albumin water and strained soups or broths may be given. These latter may also be used as a means of getting back to the breast again, when an abrupt return might bring about a relapse. On doing this a portion of these forms of nourishment or some sterile water should precede the nursing from the breast so as to restrict the amount of milk taken at each feeding. In most of these cases all medicinal treatment is usually unnecessary. However, if the motions become quite watery, fairly large doses of bismuth subnitrate may be prescribed with advantage.

Association News

APPOINTMENTS ON COMMITTEES

Dr. John B. Murphy, president of the American Medical Association, has made the following appointments on committees for 1911-12:

Committee on Transportation and Place of Session

(To complete the Committee, in addition to J. Rawson Pennington, Chairman, elected by the House of Delegates.)

Thomas J. Murray....................Butte, Mont.
William L. Brown....................El Paso, Tex.
James P. Hutchinson....................Philadelphia
William E. Anderson....................Farmville, Va.

Committee on Nomenclature and Classification of Diseases

Alembert W. Brayton....................Indianapolis

(Vice Victor C. Vaughan, resigned.)

Committee on Anesthesia

George Emerson Brewer, Chairman, New York City
Thomas W. Huntington..............San Francisco
Yandell Henderson..............New Haven, Conn.
Fred T. Murphy........................St. Louis
E. Denegre Martin....................New Orleans

Committee on Establishment of Physicians' Sanitarium

Edward Jackson, Chairman....................Denver
Alexander C. Magruder.......Colorado Springs, Colo.
Joseph Yates Porter..............Jacksonville, Fla.
Algernon T. Bristow....................Brooklyn
Fitch C. E. Mattison..................Pasadena, Cal.

Committee to Formulate Amendments to the Constitution and By-Laws to Extend Membership

D. S. Fairchild, Chairman..............Clinton, Ia.
John W. Young....................Grenada, Miss.
Charles S. Sheldon..................Madison, Wis.
Horace D. Arnold........................Boston
Jere L. Crook....................Jackson, Tenn.

Committee to Arrange for Clinic Days

Charles L. Mix, Chairman..................Chicago
Edward Martin....................Philadelphia
Philip Marvel..................Atlantic City, N. J.
Alexander Lambert....................New York
John M. T. Finney....................Baltimore

Committee to Arrange Appropriate Lectures to the Public at the Annual Meetings

William A. Evans, Chairman..............Chicago
Maria M. Vinton..................East Orange, N. J.
Rosalie S. Morton..................New York City
Joseph S. Neff....................Philadelphia
Edward Guion..................Atlantic City, N. J.

Committee to Investigate the Advisability of Publishing a Small Medical Journal

Joseph N. McCormack, Chairman..Bowling Green, Ky.
George A. Moleen........................Denver
Edward E. Dorr....................Des Moines, Ia.
George T. Palmer..................Springfield, Ill.
Park W. Willis....................Seattle, Wash.

Committee to Investigate the Advisability of Publishing a Health Journal

William A. Evans, Chairman..............Chicago
Benjamin R. McClellan....................Xenia, O.
Seale Harris....................Mobile, Ala.
Gardner T. Swarts..................Providence, R. I.
Francis E. Fronczak..................Buffalo, N. Y.

Committee to Conservation Congress

The President has created and appointed the following Committee to Represent the American Medical Association at the Third National Conservation Congress:

William A. Evans, Chairman..............Chicago
Abraham Jacobi....................New York
Hubert Work....................Pueblo, Colo.
Norman Bridge..................Los Angeles, Cal.
Oscar Dowling....................Shreveport, La.
The Very Rev. Andrew Morrissey...South Bend, Ind

Correspondence

Fatal Poisoning from Strychnin in the Nose

To the Editor:—September 6, about 11:00 a. m., a man in the habit of snuffing cocain went to a drug store and called for a bottle of that drug. By mistake he was given a bottle of strychnin sulphate, of which, he said, he used about the amount of a pea before he left the drug store. At noon the same day, I was called to see him and he told me that he had just taken a dose of cocain which was about to kill him; it had never had such effect before. While I was preparing a hypodermic injection, I received a message explaining that the substitution of strychnin for cocain had just been discovered in the drug store. When I returned to the patient, he was having convulsions and continued to have them off and on until he died at 1:30 p. m., about two and a half hours after having used the poison. I do not remember having seen a report of any case of poisoning from strychnin sulphate in this manner, and I would like to have an opinion on it.

J. A. BURNETT, Marble City, Okla.

COMMENT.—Naturally the placing of a soluble salt of strychnin, like the sulphate, in the nasal cavity affords an opportunity for absorption as great as, or greater than, when swallowed. The dose given can be known only approximately, but must have been several times as large as doses which are known to have proved fatal. The fatal period was about the average. The unfortunate character of the accident needs no comment. In the reported human strychnin-poisonings, the poison has been administered by the mouth or hypodermically so far as our observation goes except in two instances: In one case after the application of powdered strychnin to the eye, tetanus followed in three or four minutes (Schuler: *Gaz. méd. de Paris*, 1861, Series 3, xvi, 98). In another instance, the inhalation of steam from a hot mixture containing strychnin caused mild poisoning (Newbecker: THE JOURNAL A. M. A., Jan. 30, 1904, p. 310).

"There's a Reason"

To the Editor:—On my return from an extended trip in the East I was much surprised to learn that THE JOURNAL of the American Medical Association, in its issue of August 19, had taken occasion to attack the *American Journal of Clinical Medicine* editorially.

In this editorial the reader is insidiously led to the conclusion that there was a carefully prepared plan on our part, in cooperation with Mr. Post, to collect testimonials for Grape-Nuts and Postum Cereal. That this inference is unjustified could easily have been learned by THE JOURNAL, if it had taken the trouble to communicate with me. However, I am glad to give the profession all the facts in the case, and these are as follows:

Some months ago I had the pleasure of a personal interview with Mr. Post. At that time I was impressed by his candor and evident essential honesty, and convinced that he had not for some time been receiving fair treatment at the hands of some of his critics. While I believed, and still believe, that he has made a serious mistake in the character of some of his advertising (and this I took occasion to tell him personally—and he admitted it) I was also convinced that he was being made the victim of unnecessarily bitter attacks. While I would not defend him for advertising his foods as "cures" for disease, I did believe and still believe that the foods themselves are good, and that in advocating simplicity in diet and showing the harmfulness of the caffein-bearing beverages, he was rendering a real service to the people.

It was this feeling, with the desire to learn exactly how the readers of our journal felt toward Mr. Post and his products, that led me to send letters (we were quoted in THE JOURNAL correctly) to quite a number of our subscribers, their names being taken at random. I had decided that whether we should continue carrying the advertisement of the Post products or not was to depend on the character of the replies which we received from this straw vote. As a result of this vote it may interest you to know that we have received and have on file, subject to inspection, about 700 letters in praise of these products; about 500 which are noncommittal or indifferent, and about fifty which are condemnatory—but with no essential reasons given. We still carry their copy.

Your inference that the purpose of this campaign was to collect testimonials for Mr. Post was an unfortunate mistake. I am frank to say that a few (a mere bagatelle, proportionately) of these letters received were sent to Mr. Post for his inspection (but in every case with the writer's permission); and so far as we know, not one of these has been published.

I sent out these letters to our subscribers in the very kindliest spirit, primarily with the purpose of securing the information asked for our own guidance, and with no thought of deceiving or misleading anyone. So far as I can perceive, no man has been injured, but rather the cause of fair dealing between man and man, and the advertisers and the public, has been enhanced thereby. The one mistake I may have made was in failing to make the language of my letters sufficiently "judicial"—or indifferent—in tone.

Your suggestion that we "wish some excuse for participating in the benefits of his (Post) million-dollar advertising campaign" needs no comment. We have carried their business for years and see no reason why we should not continue to do so. Under the circumstances, it hardly seems necessary to state that the question of profit to us was not a factor in this straw vote—not in any sense of the word.

W. C. ABBOTT, Chicago.

COMMENT.—We publish the above "explanation" for what it is worth. The point of our criticism—dismissed by Dr. Abbott in three lines—was that a medical journal, in seeking to learn the attitude of its readers toward certain advertised products, should submit to its subscribers a series of leading questions so worded as, practically, to preclude any but favorable replies. It is not surprising that the answers to these letters sent out by the *American Journal of Clinical Medicine* were favorable to the products; the surprising thing is that there were any letters that were otherwise! The fact that there were nearly as many indifferent and condemnatory replies as there were replies praising the product, would, in view of the wording of the letter, have given pause to anyone who had not prejudged the question. The wish was evidently father to the thought. The letter said, in effect:

> We have been advertising Post's products for over ten years.
> We have always believed they were pure; we have used them and recommended them extensively.
> Will you cooperate by giving us your opinion?

Is it any wonder that the majority of the replies were favorable? Would there have been any "cooperation" in an unfavorable reply? Can anyone believe that evidence collected by such means has the slightest value? Of course, as testimonials, these answers doubtless have a distinct commercial value and there is little question that Mr. Post will find a use for those physicians' letters that have been so generously collected and forwarded him. In the famous suit in which Post was condemned to pay *Collier's* $50,000 for libel, Post was able to produce one favorable opinion of his products from a medical man—just one. Now he will have an abundance. As *Collier's* said, commenting on this, "It seems to us that, on every principle of give and take, the advertising of Postum and Grape-Nuts ought to continue to appear in the *American Journal of Clinical Medicine* for the next thousand years."

Treatment of Rhus Poisoning

To the Editor:—For many years I have known of a certain cure for poisoning from ivy and various species of rhus. This cure could be described briefly as the last thing that was put on. It was very much like the cures for vomiting of pregnancy. The last thing employed in any given case was a specific.

For something over forty years I have suffered from ivy poisoning, on an average, more than once a year. As a fisherman, hunter and horticulturist, no degree of caution sufficed to allow of my escape from ivy poisoning for an entire season when in America.

QUERIES AND MINOR NOTES

Not long ago I read of the discovery by Dr. Berryhill, of the United States Navy, that ivy poisoning was caused by an irritating oil produced in various parts of the plants of poisonous species of rhus, and that proper treatment consisted in scrubbing affected parts vigorously with hot soapsuds, followed by alcohol. A few days later while at a farm house I was poisoned on the hands and arms. Alcohol was applied freely, but the scrubbing brush and hot soapsuds were not available. It is often the case that one finds only the necessities like alcohol at a farm house, without any luxuries in the way of scrubbing brushes. The treatment with alcohol alone was not very effective, and my confidence went back to palliatives like hyposulphite of soda and acetate of lead. A week ago, I was again poisoned severely on the hands and arms. This time a good scrubbing was given with hot soapsuds and a brush, followed by scrubbing with ether on a rag. In five minutes it was evident that a cure had been effected. There was no discomfort at any subsequent moment. The red elevation at the sites of vesication lessened day by day, and without any irritation in evidence. Dr. Berryhill said nothing about the employment of ether, and it is probable that alcohol, as he suggested, would be better as a rule.

The gratification of finding this almost instantaneous cure for ivy poisoning is such that I publish the note as personal experience promptly.

Robert T. Morris, New York.

To the Editor:—There was what might be called an epidemic of skin diseases due to poison ivy at Woods Hole, Mass., this summer. Many of the students, investigators and employees at the U. S. Bureau of Fisheries laboratory suffered from it as did also many visitors. At the seashore an insect bite is usually the portal of entry of the rhus toxin. Not only mosquitoes but the so-called sand fleas are dangerous insects, if their bites precede or follow the poison ivy eruption. The manner of acquiring the eruption cannot always be explained. I know of one man who acquired it from his long-haired St. Bernard dog, who, after rolling in these plants on the way to the beach, would brush past his master's legs and thus infect him. Ladies often get it in drawing off their skirts and shoes that have come in contact with the plant.

There was no end of methods of treatment and as a rule when there are many kinds of treatments for one abnormality not one of them is effective. Therefore it is with much hesitancy that I add another method to this already swollen polypharmacy. But here the other methods had been tried and failed and my new plan was so universally beneficial that I cannot resist publishing it. There are two etiologic ideas that guided me. In the first place it was known that the active poison was an essential oil and therefore only solvents for oils which had a greater affinity for it than the cutaneous cells could remove it. In the second place it soon became evident to me from repeated microscopic examinations of the discharge that all severe cases, at least, are mixed skin infections, due to an invasion of bacteria—even pyogenic cocci—after the rhus had entered.

The first indication was met by an alkaline hot bath (ammonia or bicarbonate of sodium) added to a hot bath and liberal rubbing with ethereal antiseptic soap. Thereafter the parts are bathed in 85 per cent. alcohol and dried.

The second cause is met by the yellow oxid of mercury ointment most effectively.

℞

Unguenti hydrargyri oxidi flavi.................... ℥ss
Morphini .... gr. ij
M. Ointment.

There is however a third factor, the distress of the itching and the discharge. For this, after going through the above treatment in the morning, the following ointment should be applied at night.

℞

Bismuth subgallate .... 100 m
Solution epinephrin (adrenalin chlorid)—1:1000— ʒv
Lanolin .... ℥i
White petrolatum q. s. ....ad. ℥i

M. Sig: Ointment. Rub in liberally, then dust with an antiseptic powder.

But the yellow oxid of mercury ointment must precede this and the patient must avoid the locality where the rhus grows. The ethereal soap cannot be used around the eyes. Out of fourteen patients, ten were cured in eight days and the method soon acquired the reputation of a specific. Seven cases were so severe that the sufferers were confined to bed from four to eight days. The alkaline bath should be taken daily.

John C. Hemmeter, M.D., Ph.D., Baltimore.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

FISH-POISONING

To the Editor:—Please give the bacteriology, pathology, diagnosis and treatment of so-called fish-poisoning or salmon-poisoning occurring among handlers of fish on the Pacific Coast.

L. B. Sims, M.D., Blaine, Wash.

Answer.—We presume that our correspondent refers to an obscure disease observed in employees connected with the salmon-canning business, especially among the Chinese laborers in the Alaska canneries and on the ships bound homeward after the close of the fishing season. Deaths during the voyage and after arrival at port are common, and serious illness affects a comparatively large number each year. On one vessel three weeks en route from Alaska to San Francisco, there were five deaths during the voyage, two more deaths in quarantine and twenty other cases of serious illness in a gang of about 125 coolies. The cases present such a noteworthy similarity of symptoms as to suggest a common cause. The disease begins with general weakness which gradually increases. In a few days the feet and legs become edematous and swollen, and the standing posture is difficult or impossible. There may be precordial discomfort, but there is no pain, no tenderness of nerves or muscles, no abnormality of reflexes and no fever. Respiration is accelerated, the heart action is weak and rapid, there is a systolic murmur, and the area of precordial dulness is increased. The only significant pathologic changes found post mortem are in the heart. This organ is enlarged, flabby and fatty; the muscle is pale, soft and easily torn; and the walls are very much thinner than normal. Bacteriologic examination is without positive results.

The clinical history and the post-mortem findings point to an acute degeneration of the heart-muscle, due to malnutrition. The primary cause of the disease seems to be found in the exhausting labor, poor quality of food and unhygienic surroundings. The sanitary conditions under which these laborers live, especially on shipboard, are described as frightful, and a public health officer (Lumsden, L. L.: Public Health Reports, U. S. P. H. and M.-H. S., xv, 1900) has said that "it is a crime against humanity that these helpless, irresponsible creatures should be herded together in this way, and allowed to remain amid all this filth during a voyage of about three weeks."

VASECTOMY

To the Editor:—Please give me references to literature on vasectomy—history, methods and results.

G. F.

Answer.—The physiologic effect of bilateral excision of a portion of the vas deferens, commonly called vasectomy, was studied on animals a century ago by Sir Astley Cooper, and has been investigated by many others since. The unanimous report is that no effect whatever can be detected, except the imprisonment of spermatozoa and consequent sterility. Both functions of the testicle—the so-called internal secretion necessary to adult masculinity, and the production of spermatozoa—continue unimpaired indefinitely. In a human subject, normal active spermatozoa were found in the testis seventeen years after the occlusion of the vas. Sexual desire and power continue unaffected, as they do also after bilateral occlusion of the vasa by gonococcus epididymitis, and in cases of congenital absence of the vasa.

In the human subject, excision of the diseased vas has long been a standard measure; bilateral excision of a piece of the normal duct was introduced by Lennander, in 1894, as a substitute for castration as a means of relieving the ills consecutive to prostatic hypertrophy; and for several years thereafter it had considerable vogue. This operation is used also to pre-

QUERIES AND MINOR NOTES

vent the recurrence of epididymitis resulting from chronic infection of prostate and vesicles; and it is often added to a prostatectomy to prevent epididymitis which is apt to follow the latter operation. Its employment for the purpose of erilizing mentally defective males, now authorized by law at least four states in the Union (Indiana, California, onnecticut and Iowa), began in Indiana in 1897; the measure as also been under consideration in a number of other states.

The operation is surgically and physiologically harmless; with local anesthesia a half-inch cut is made to the vas, the latter pulled up above the skin, about an inch of the duct excised, the cut ends ligated and dropped into the wound. Surgical cleanliness is requisite.

The following articles may be referred to:

Belfield, W. T.: Sterilization of Criminals and Other Defectives by Vasectomy, *Jour. New Mexico Med. Soc.*, July, 1909; abstr. in THE JOURNAL, April 10, 1909, p. 1211.

Sharp, H. C.: Vasectomy as Means of Preventing Procreation in Defectives, THE JOURNAL A. M. A., Dec. 4, 1909, p. 1897.

Bloss, J. R.: Sterilization of Confirmed Criminals and Other Defectives, *West Virginia Med. Jour.*, March, 1910; abstr. in THE JOURNAL, April 16, 1910, p. 1336.

Foster, B: Sterilization of Habitual Criminals and Degenerates, *Northwest Lancet*, Jan. 15, 1910; abstr. in THE JOURNAL, Nov. 20, 1909, p. 1847.

Rentoul, R. R.: Proposed Sterilization of Certain Degenerates, *Med Press and Circular*, Dec. 29, 1909.

Carrington, C. V.: Sterilization of Habitual Criminals, *Virginia Med. Semi-Month.*, Dec. 24, 1909; abstr. in THE JOURNAL, Oct. 23, 1909, p. 1420, and also March 19, 1910, p. 995.

Chandler, J. W.: Sterilization of Confirmed Criminals, Idiots, Imbeciles and Other Defectives by Vasectomy, *Jour. Med. Soc. New Jersey*, December, 1909; abstr. in THE JOURNAL, Aug. 28, 1909, p. 736.

Barrow, B.: Vasectomy for the Defective Negro with His Consent, *Virginia Med. Semi-Month.*, Aug. 26, 1910.

Preston, C. H.: Vasectomy; Its Ethical and Sanitary Limitations, *West Virginia Med. Jour.*, July, 1910.

Hoag, J. C.: Relation of Vasectomy to Eugenics, *Chicago Med. Record*, January, 1911.

PHYSICIANS AND COCAIN PRESCRIBING

To the Editor:—Have I a right to use cocain in my prescription work and to give out the mixture myself in my own prescriptions? Have I also a right to prescribe or to send these cocain mixtures outside of the county or the state? Must the presence and percentage of cocain be stated?

F. F. E., Illinois.

ANSWER.—The federal government in "Food Inspection Decision 57" has declared the status of packages compounded according to physicians' prescriptions and entering into interstate commerce, as follows:

> "If a package compounded according to a physician's prescription be shipped, sent or transported from any state or territory or the District of Columbia to another state or territory or the District of Columbia by a compounder, druggist, physician, or their agents, by mail, express, freight, or otherwise, the label of such package is required to bear the information called for by Congress. If, however, the patient himself, or a member of his household, or the physician himself carries such package across a state line, and such package is not subject to sale, it is held that such package need not be marked so as to conform with the law, because such a transaction is not considered one of interstate commerce.
>
> "The package may be marked so as to comply with the act by either stamp, pen and ink or typewriter, provided all such written matter is distinctly legible and on the principal label, as prescribed in Regulation 17."

The national government has no jurisdiction over packages of medicine that do not go out of the state in which they are put up. The state in which our correspondent lives (Illinois) deals with the subject of cocain prescribing through its pharmacy law. Sections 14a and 14b of this law read as follows:

> "§ *14 a.* It shall be unlawful for any druggist or other person to retail, sell or give away any cocain, alpha or beta eucain, or any salt or any compound or derivative of any of the foregoing substances, or any preparation or compound containing any of the foregoing substances or any of their salts or compounds or derivatives, except on the written prescription of a duly registered physician, which prescription shall contain the name and address of the person for whom prescribed, and the date the same shall have been filled, and shall be permanently retained on file by the person, firm or corporation where the same shall have been filled, and it shall be filled but once, and of it no copy shall be taken by any person, and the original shall at all times be open to the inspection of the prescriber, to the State Board of Pharmacy, and all officers of the law; except, however, that such cocain, alpha or beta eucain, or any salt or any compound, or any derivative of the foregoing substances, or any preparation or compound containing any of the foregoing substances or any of their salts or compounds or derivatives, may lawfully be sold at wholesale on the written order of a licensed pharmacist, or licensed druggist, duly registered practicing physician, licensed veterinarian or licensed dentist, provided that the wholesale dealer shall affix or cause to be affixed to the bottle, box, vessel or package containing the article sold, and on the outside wrapper of the package as originally put up, a label, distinctly displaying the name and quantity of cocain, alpha or beta eucain, or any salt or compound or derivative of any of the foregoing substances sold, and the word "poison," with the name and place of business of the seller, all printed in red ink; and, provided also, that the wholesale dealer shall, before delivering any of the articles, make or cause to be made, in a book kept for the purpose, an entry of the sale thereof, stating the date of sale, the quantity, name and form in which sold, the name and address of the purchaser, and the name of the person by whom the entry is made; and the said book shall always be open for inspection by the proper authorities of the law, and shall be preserved for at least five years after the date of the last entry made therein.
>
> "§ *14 b.* It shall be unlawful for any duly registered physician, or other person, to prescribe, sell or offer for sale, dispense or give away any cocain, alpha or beta eucain, or any salt or compound or derivative of the foregoing substances, or any of their salts or compounds or derivatives, or preparation or compound containing any of the foregoing substances, to any person addicted to the habitual use of cocain, alpha or beta eucain, or any salt or compound or derivative of the foregoing substances, in any form."

BITES OF SNAKES, SPIDERS AND OTHER NOXIOUS CREATURES

To the Editor:—Please give references on symptoms and treatment of bite by (1) rattlesnake, (2) scorpion, (3) tarantula and (4) small black spider.

A. L. W.

ANSWER:—1. A full account of venomous serpents, including the rattlesnake, is found in the "Manual of Tropical Medicine," by Castellani and Chalmers (published by W. Wood & Co., 51 Fifth Avenue, New York. Ed. 1, price $6.00). The following references to the subject are found in the literature since 1905:

Rogers, L.: Snake-Bite Treated by Incision and Application of Permanganate of Potash, *Indian Med. Gaz.*, October, 1905; abstr. in THE JOURNAL, Dec. 9, 1905, p. 1830.

Ferguson, A. D.: Adrenalin Chlorid in the Treatment of Rattlesnake-Bite, *Tex Med. News*, November, 1906.

Haw, W. H.: Two Cases of Snake-Bite with Suggestions for Treatment, *Lancet*, April 27, 1907; abstr. in THE JOURNAL, May 25, 1907, p. 1819.

Baier, F. C.: Rattlesnake-Bite, with Recovery, *Northwest. Lancet*, June 15, 1907.

Braddock, C. S.: Treatment of Snake-Bites as Seen in the Jungle, *New York Med. Jour.*, Nov. 8, 1907; abstr. in THE JOURNAL, Nov. 23, 1907, p. 1803.

Willson, P.: Snake-Poisoning in the United States, *Arch. Int. Med.*, June, 1908; discussed editorially in THE JOURNAL, July 11, 1908, p. 132.

White, C. S.: Case of Poisoning from the Bite of a Rattlesnake, THE JOURNAL, May 8, 1909, p. 1486.

Lyon, W. C.: Venomous Snakes of the United States, *Mil. Surg.*, Wash, October, 1910.

In this connection a paragraph in the Vienna Letter in this issue will be of interest.

2. An extensive and excellent article is by H. V. Jackson: Poisonous Scorpion, Including a Review of Some Recent Literature and Personal Experiences, *Interstate Med. Jour.*, July, 1910. See also an article by C. Todd: Antiserum for Scorpion Venom, *Jour. Hyg.*, April, 1909; abstr. in THE JOURNAL, July 3, 1909, p. 82.

3. We find no articles on tarantula-poisoning. The tarantula produces merely local swelling and is not dangerous.

4. We cannot say from our correspondent's description which variety of spider is referred to. Castellani and Chalmers ("Manual of Tropical Medicine") describe the symptoms produced by the bite of several spiders, including *Lactrodectus mactans*, which is black with red spots. A case of a bite by this spider is reported, together with editorial comment on the spiders in general: Hodgdon, A. L.: Bite of a Poisonous Spider, *Lactrodectus mactans*, THE JOURNAL, May 4, 1907, p. 1507.

CASE FOR DIAGNOSIS

To the Editor:—I have a patient who began to suffer ten months ago with tingling in the ends of fingers and toes, which gradually traveled toward the trunk. Hypersensitiveness followed tenderness on pressure over the trunks of nerves. It has now reached the trunk, and, in fact, the whole extent of the peripheral nerves. The extra sensitiveness changes from one part of the body to the other with powerful pain in the cardiac regions, and the patient almost dies from pain in the heart, owing to contractions of muscles. In the precordial region there is a separation of costal cartilage from the ribs on the left side. Patient's appetite is now very good, bowels a little constipated, urine normal in quantity and quality, habits good. He has been in bed now about six months. Please give diagnosis and treatment. I call it "multiple peripheral neuritis."

DR. S. M. HENRY, Groom, Texas.

ANSWER.—The case as described is not like multiple peripheral neuritis, but suggests the onset of locomotor ataxia with severe girdle-pains or crises. Neuritis produces paralysis and anesthetic zones which are not described. It is desirable to know the condition of the patient's reflexes, whether there are anesthetic zones, whether there is any paralysis or ataxia or muscular atrophy and also his history as to exposure to alcoholic, lead or other poisoning or any of the infectious diseases which produce neuritis or locomotor ataxia and allied diseases. Is there disease of the costal cartilage or rib which are said to be separated: i. e., evidence of inflammation or trophic disease? The case is one for careful scientific investigation, as otherwise a correct diagnosis would be only possible by a fortunate guess. The diagnosis being made, the method of treatment will become clearer.

Not long ago I read of the discovery by Dr. Berryhill, of the United States Navy, that ivy poisoning was caused by an irritating oil produced in various parts of the plants of poisonous species of rhus, and that proper treatment consisted in scrubbing affected parts vigorously with hot soapsuds, followed by alcohol. A few days later while at a farm house I was poisoned on the hands and arms. Alcohol was applied freely, but the scrubbing brush and hot soapsuds were not available. It is often the case that one finds only the necessities like alcohol at a farm house, without any luxuries in the way of scrubbing brushes. The treatment with alcohol alone was not very effective, and my confidence went back to palliatives like hyposulphite of soda and acetate of lead. A week ago, I was again poisoned severely on the hands and arms. This time a good scrubbing was given with hot soapsuds and a brush, followed by scrubbing with ether on a rag. In five minutes it was evident that a cure had been effected. There was no discomfort at any subsequent moment. The red elevation at the sites of vesication lessened day by day, and without any irritation in evidence. Dr. Berryhill said nothing about the employment of ether, and it is probable that alcohol, as he suggested, would be better as a rule.

The gratification of finding this almost instantaneous cure for ivy poisoning is such that I publish the note as personal experience promptly.

Robert T. Morris, New York.

To the Editor:—There was what might be called an epidemic of skin diseases due to poison ivy at Woods Hole, Mass., this summer. Many of the students, investigators and employees at the U. S. Bureau of Fisheries laboratory suffered from it as did also many visitors. At the seashore an insect bite is usually the portal of entry of the rhus toxin. Not only mosquitoes but the so-called sand fleas are dangerous insects, if their bites precede or follow the poison ivy eruption. The manner of acquiring the eruption cannot always be explained. I know of one man who acquired it from his long-haired St. Bernard dog, who, after rolling in these plants on the way to the beach, would brush past his master's legs and thus infect him. Ladies often get it in drawing off their skirts and shoes that have come in contact with the plant.

There was no end of methods of treatment and as a rule when there are many kinds of treatments for one abnormality not one of them is effective. Therefore it is with much hesitancy that I add another method to this already swollen polypharmacy. But here the other methods had been tried and failed and my new plan was so universally beneficial that I cannot resist publishing it. There are two etiologic ideas that guided me. In the first place it was known that the active poison was an essential oil and therefore only solvents for oils which had a greater affinity for it than the cutaneous cells could remove it. In the second place it soon became evident to me from repeated microscopic examinations of the discharge that all severe cases, at least, are mixed skin infections, due to an invasion of bacteria—even pyogenic cocci—after the rhus had entered.

The first indication was met by an alkaline hot bath (ammonia or bicarbonate of sodium) added to a hot bath and liberal rubbing with ethereal antiseptic soap. Thereafter the parts are bathed in 85 per cent. alcohol and dried.

The second cause is met by the yellow oxid of mercury ointment most effectively.

℞

Unguenti hydrargyri oxidi flavi....................	℥ss
Morphini	gr. ij

M. Ointment.

There is however a third factor, the distress of the itching and the discharge. For this, after going through the above treatment in the morning, the following ointment should be applied at night.

℞

Bismuth subgallate	100 ♏
Solution epinephrin (adrenalin chlorid)—1 :1000—	ʒv
Lanolin	℥i
White petrolatum q. s.......................ad.	℥i

M. Sig: Ointment. Rub in liberally, then dust with an antiseptic powder.

But the yellow oxid of mercury ointment must precede this and the patient must avoid the locality where the rhus grows. The ethereal soap cannot be used around the eyes. Out of fourteen patients, ten were cured in eight days and the method soon acquired the reputation of a specific. Seven cases were so severe that the sufferers were confined to bed from four to eight days. The alkaline bath should be taken daily.

John C. Hemmeter, M.D., Ph.D., Baltimore.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

FISH-POISONING

To the Editor:—Please give the bacteriology, pathology, diagnosis and treatment of so-called fish-poisoning or salmon-poisoning occurring among handlers of fish on the Pacific Coast.

L. B. Sims, M.D., Blaine, Wash.

Answer.—We presume that our correspondent refers to an obscure disease observed in employees connected with the salmon-canning business, especially among the Chinese laborers in the Alaska canneries and on the ships bound homeward after the close of the fishing season. Deaths during the voyage and after arrival at port are common, and serious illness affects a comparatively large number each year. On one vessel three weeks en route from Alaska to San Francisco, there were five deaths during the voyage, two more deaths in quarantine and twenty other cases of serious illness in a gang of about 125 coolies. The cases present such a noteworthy similarity of symptoms as to suggest a common cause. The disease begins with general weakness which gradually increases. In a few days the feet and legs become edematous and swollen, and the standing posture is difficult or impossible. There may be precordial discomfort, but there is no pain, no tenderness of nerves or muscles, no abnormality of reflexes and no fever. Respiration is accelerated, the heart action is weak and rapid, there is a systolic murmur, and the area of precordial dulness is increased. The only significant pathologic changes found post mortem are in the heart. This organ is enlarged, flabby and fatty; the muscle is pale, soft and easily torn; and the walls are very much thinner than normal. Bacteriologic examination is without positive results.

The clinical history and the post-mortem findings point to an acute degeneration of the heart-muscle, due to malnutrition. The primary cause of the disease seems to be found in the exhausting labor, poor quality of food and unhygienic surroundings. The sanitary conditions under which these laborers live, especially on shipboard, are described as frightful, and a public health officer (Lumsden, L. L.: Public Health Reports, U. S. P. H. and M.-H. S., xv, 1900) has said that "it is a crime against humanity that these helpless, irresponsible creatures should be herded together in this way, and allowed to remain amid all this filth during a voyage of about three weeks."

VASECTOMY

To the Editor:—Please give me references to literature on vasectomy—history, methods and results.

G. F.

Answer.—The physiologic effect of bilateral excision of a portion of the vas deferens, commonly called vasectomy, was studied on animals a century ago by Sir Astley Cooper, and has been investigated by many others since. The unanimous report is that no effect whatever can be detected, except the imprisonment of spermatozoa and consequent sterility. Both functions of the testicle—the so-called internal secretion necessary to adult masculinity, and the production of spermatozoa—continue unimpaired indefinitely. In a human subject, normal active spermatozoa were found in the testis seventeen years after the occlusion of the vas. Sexual desire and power continue unaffected, as they do also after bilateral occlusion of the vasa by gonococcus epididymitis, and in cases of congenital absence of the vasa.

In the human subject, excision of the diseased vas has long been a standard measure; bilateral excision of a piece of the normal duct was introduced by Lennander, in 1894, as a substitute for castration as a means of relieving the ills consecutive to prostatic hypertrophy; and for several years thereafter it had considerable vogue. This operation is used also to pre-

QUERIES AND MINOR NOTES

vent the recurrence of epididymitis resulting from chronic infection of prostate and vesicles; and it is often added to a prostatectomy to prevent epididymitis which is apt to follow the latter operation. Its employment for the purpose of sterilizing mentally defective males, now authorized by law in at least four states in the Union (Indiana, California, Connecticut and Iowa), began in Indiana in 1897; the measure has also been under consideration in a number of other states.

The operation is surgically and physiologically harmless; with local anesthesia a half-inch cut is made to the vas, the latter pulled up above the skin, about an inch of the duct excised, the cut ends ligated and dropped into the wound. Surgical cleanliness is requisite.

The following articles may be referred to:

Belfield, W. T.: Sterilization of Criminals and Other Defectives by Vasectomy, *Jour. New Mexico Med. Soc.*, July, 1909; abstr. in THE JOURNAL, April 10, 1909, p. 1211.

Sharp, H. C.: Vasectomy as Means of Preventing Procreation in Defectives, THE JOURNAL A. M. A., Dec. 4, 1909, p. 1897.

Bloss, J. R.: Sterilization of Confirmed Criminals and Other Defectives, *West Virginia Med. Jour.*, March, 1910; abstr. in THE JOURNAL, April 16, 1910, p. 1336.

Foster, B: Sterilization of Habitual Criminals and Degenerates, *Northwest Lancet*, Jan. 15, 1910; abstr. in THE JOURNAL, Nov. 20, 1909, p. 1847.

Rentoul, R. R.: Proposed Sterilization of Certain Degenerates, *Med Press and Circular*, Dec. 29, 1909.

Carrington, C. V.: Sterilization of Habitual Criminals, *Virginia Med. Semi-Month.*, Dec. 24, 1909; abstr. in THE JOURNAL, Oct. 23, 1909, p. 1420, and also March 19, 1910, p. 995.

Chandler, J. W.: Sterilization of Confirmed Criminals, Idiots, Imbeciles and Other Defectives by Vasectomy, *Jour. Med. Soc. New Jersey*, December, 1909; abstr. in THE JOURNAL, Aug. 28, 1909, p. 736.

Barrow, B.: Vasectomy for the Defective Negro with His Consent, *Virginia Med. Semi-Month.*, Aug. 26, 1910.

Preston, C. H.: Vasectomy; Its Ethical and Sanitary Limitations, *West Virginia Med. Jour.*, July, 1910.

Hoag, J. C.: Relation of Vasectomy to Eugenics, *Chicago Med. Record*, January, 1911.

PHYSICIANS AND COCAIN PRESCRIBING

To the Editor:—Have I a right to use cocain in my prescription work and to give out the mixture myself in my own prescriptions? Have I also a right to prescribe or to send these cocain mixtures outside of the county or the state? Must the presence and percentage of cocain be stated?

F. F. E., Illinois.

ANSWER.—The federal government in "Food Inspection Decision 57" has declared the status of packages compounded according to physicians' prescriptions and entering into interstate commerce, as follows:

> "If a package compounded according to a physician's prescription be shipped, sent or transported from any state or territory or the District of Columbia to another state or territory or the District of Columbia by a compounder, druggist, physician, or their agents, by mail, express, freight, or otherwise, the label or such package is required to bear the information called for by Congress. If, however, the patient himself, or a member of his household, or the physician himself carries such package across a state line, and such package is not subject to sale, it is held that such package need not be marked so as to conform with the law, because such a transaction is not considered one of interstate commerce.
>
> "The package may be marked so as to comply with the act by either stamp, pen and ink or typewriter, provided all such written matter is distinctly legible and on the principal label, as prescribed in Regulation 17."

The national government has no jurisdiction over packages of medicine that do not go out of the state in which they are put up. The state in which our correspondent lives (Illinois) deals with the subject of cocain prescribing through its pharmacy law. Sections 14a and 14b of this law read as follows:

> "§ *14 a.* It shall be unlawful for any druggist or other person to retail, sell or give away any cocain, alpha or beta eucain, or any salt or any compound or derivative of any of the foregoing substances, or any preparation or compound containing any of the foregoing substances or any of their salts or compounds or derivatives, except on the written prescription of a duly registered physician, which prescription shall contain the name and address of the person for whom prescribed, and the date the same shall have been filled, and shall be permanently retained on file by the person, firm or corporation where the same shall have been filled, and it shall be filled but once, and of it no copy shall be taken by any person, and the original shall at all times be open to the inspection of the prescriber, to the State Board of Pharmacy, and all officers of the law; except, however, that such cocain, alpha or beta eucain, or any salt or any compound, or any derivative of the foregoing substances, or any preparation or compound containing any of the foregoing substances or any of their salts or compounds or derivatives, may lawfully be sold at wholesale on the written order of a licensed pharmacist, or licensed druggist, duly registered practicing physician, licensed veterinarian or licensed dentist, provided that the wholesale dealer shall affix or cause to be affixed to the bottle, box, vessel or package containing the article sold, and on the outside wrapper of the package as originally put up, a label, distinctly displaying the name and quantity of cocain, alpha or beta eucain, or any salt or compound or derivative of any of the foregoing substances sold, and the word "poison," with the name and place of business of the seller, all printed in red ink; and, provided also, that the wholesale dealer shall, before delivering any of the articles, make or cause to be made, in a book kept for the purpose, an entry of the sale thereof, stating the date of sale, the quantity, name and form in which sold, the name and address of the purchaser, and the name of the person by whom the entry is made; and the said book shall always be open for inspection by the proper authorities of the law, and shall be preserved for at least five years after the date of the last entry made therein.
>
> "§ *14 b.* It shall be unlawful for any duly registered physician, or other person, to prescribe, sell or offer for sale, dispense or give away any cocain, alpha or beta eucain, or any salt or compound or derivative of the foregoing substances, or any of their salts or compounds or derivatives, or preparation or compound containing any of the foregoing substances, to any person addicted to the habitual use of cocain, alpha or beta eucain, or any salt or compound or derivative of the foregoing substances, in any form."

BITES OF SNAKES, SPIDERS AND OTHER NOXIOUS CREATURES

To the Editor:—Please give references on symptoms and treatment of bite by (1) rattlesnake, (2) scorpion, (3) tarantula and (4) small black spider.

A. L. W.

ANSWER:—1. A full account of venomous serpents, including the rattlesnake, is found in the "Manual of Tropical Medicine," by Castellani and Chalmers (published by W. Wood & Co., 51 Fifth Avenue, New York. Ed. 1, price $6.00). The following references to the subject are found in the literature since 1905:

Rogers, L.: Snake-Bite Treated by Incision and Application of Permanganate of Potash, *Indian Med. Gaz.*, October, 1905; abstr. in THE JOURNAL, Dec. 9, 1905, p. 1830.

Ferguson, A. D.: Adrenalin Chlorid in the Treatment of Rattlesnake-Bite, *Tex. Med. News*, November, 1906.

Haw, W. H.: Two Cases of Snake-Bite with Suggestions for Treatment, *Lancet*, April 27, 1907; abstr. in THE JOURNAL, May 25, 1907, p. 1819.

Baier, F. C.: Rattlesnake-Bite, with Recovery, *Northwest. Lancet*, June 15, 1907.

Braddock, C. S.: Treatment of Snake-Bites as Seen in the Jungle, *New York Med. Jour.*, Nov. 8, 1907; abstr. in THE JOURNAL, Nov. 23, 1907, p. 1803.

Willson, P.: Snake-Poisoning in the United States, *Arch. Int. Med.*, June, 1908; discussed editorially in THE JOURNAL, July 11, 1908, p. 132.

White, C. S.: Case of Poisoning from the Bite of a Rattlesnake, THE JOURNAL, May 8, 1909, p. 1486.

Lyon, W. C.: Venomous Snakes of the United States, *Mil. Surg.*, Wash, October, 1910.

In this connection a paragraph in the Vienna Letter in this issue will be of interest.

2. An extensive and excellent article is by H. V. Jackson: Poisonous Scorpion, Including a Review of Some Recent Literature and Personal Experiences, *Interstate Med. Jour.*, July, 1910. See also an article by C. Todd: Antiserum for Scorpion Venom, *Jour. Hyg.*, April, 1909; abstr. in THE JOURNAL, July 3, 1909, p. 82.

3. We find no articles on tarantula-poisoning. The tarantula produces merely local swelling and is not dangerous.

4. We cannot say from our correspondent's description which variety of spider is referred to. Castellani and Chalmers ("Manual of Tropical Medicine") describe the symptoms produced by the bite of several spiders, including *Lactrodectus mactans*, which is black with red spots. A case of a bite by this spider is reported, together with editorial comment on the spiders in general: Hodgdon, A. L.: Bite of a Poisonous Spider, *Lactrodectus mactans*, THE JOURNAL, May 4, 1907, p. 1507.

CASE FOR DIAGNOSIS

To the Editor:—I have a patient who began to suffer ten months ago with tingling in the ends of fingers and toes, which gradually traveled toward the trunk. Hypersensitiveness followed tenderness on pressure over the trunks of nerves. It has now reached the trunk, and, in fact, the whole extent of the peripheral nerves. The extra sensitiveness changes from one part of the body to the other with powerful pain in the cardiac regions, and the patient almost dies from pain in the heart, owing to contractions of muscles. In the precordial region there is a separation of costal cartilage from the ribs on the left side. Patient's appetite is now very good, bowels a little constipated, urine normal in quantity and quality, habits good. He has been in bed now about six months. Please give diagnosis and treatment. I call it "multiple peripheral neuritis."

DR. S. M. HENRY, Groom, Texas.

ANSWER.—The case as described is not like multiple peripheral neuritis, but suggests the onset of locomotor ataxia with severe girdle-pains or crises. Neuritis produces paralysis and anesthetic zones which are not described. It is desirable to know the condition of the patient's reflexes, whether there are anesthetic zones, whether there is any paralysis or ataxia or muscular atrophy and also his history as to exposure to alcoholic, lead or other poisoning or any of the infections which produce neuritis or locomotor ataxia and allied diseases. Is there disease of the costal cartilage or rib which are said to be separated: i. e., evidence of inflammation or trophic disease? The case is one for careful scientific investigation, as otherwise a correct diagnosis would be only possible by a fortunate guess. The diagnosis being made, the method of treatment will become clearer.

The Public Service

Medical Department, U. S. Army

Changes during the week ended Sept. 16, 1911.

Stone, Frank P., dental surgeon, reported for duty at Fort Barrancas, Fla.

Wing, Franklin F., dental surgeon, returned to Fort D. A. Russell, Wyo., from temporary duty at Fort Logan, Colo.

Boak, S. D., dental surgeon, left West Point, N. Y., on thirty days' leave of absence.

Thomason, Henry D., captain, ordered to Milwaukee, Wis., for the purpose of reading a paper before the Association of Military Surgeons of the United States, Sept. 26 to 29, 1911.

Richard, Charles, colonel, leave of absence extended ten days.

Ferenbaugh, Thomas L., and Gentry, Ernest R., lieuts., relieved from duty in the Department of Texas and will return to proper stations.

Bowen, Albert S., lieut., ordered to Fort Snelling, Minn., for temporary duty; granted thirty days' leave of absence.

Maus, L. Mervin, colonel, leave of absence extended ten days.

Suggs, Frank, M.R.C., granted eighteen days' leave of absence.

Whitney, Walter, M.R.C., ordered to proceed from Fort McPherson, Ga., to Fort Dale, Fla., for temporary duty at the latter post.

Eliot, Henry W., M.R.C., granted thirty days' leave of absence.

Tetrault, Charles A., M.R.C., ordered to proceed from Fort Michie, N. Y., to Fort H. G. Wright, N. Y., for temporary duty.

Changes during the week ended Sept. 23, 1911.

McAlister, John A., Jr., dental surgeon, ordered to proceed from Fort Sam Houston, Texas, to Camp Cloudroft, N. Mex., for temporary duty.

Millikin, John D., dental surgeon, arrived at San Francisco from Philippine Islands and left same date on two months' leave of absence.

Burket, John A., lieut., granted leave of absence from Oct. 3, 1911, to such date as it may be necessary for him to start for the Philippine Islands.

Norman, Seaton, M.R.C., on expiration of present leave will proceed to Fort Clark, Texas, for duty. Lieutenant Norman will stand relieved from duty at Fort Clark at such time as will enable him to comply with orders hereinafter given, and will proceed to his home and stand relieved from further active duty in the Medical Reserve Corps, March 1, 1912.

Russell, F. F., major, ordered to New York City and Boston to investigate recent bacteriological developments in connection with course of instruction at the Army Medical School in this city.

Smith, William H., lieut., granted ten days' leave of absence.

Thomason, Henry D., captain, is detailed to attend the annual meeting of the National Guard Association of the United States, Buffalo, N. Y., Oct. 9 to 11, 1911.

Winter, Francis A., major, ordered to proceed to St. Louis and Jefferson Barracks, Mo., on official business.

Marrow, Charles E., major, granted leave of absence for two months, about Sept. 10, 1911.

McAlister, John A., Jr., dental surgeon, left Fort Sam Houston, Texas, en route to Camp Cloudcroft, N. Mex., for temporary duty.

Little, William L., captain, ordered to proceed from Fort Adams, R. I., to Springfield Armory, Mass., for physical examination of officers stationed at that place, about Sept. 25, 1911.

Hughes, Leonard S., lieut., granted ten days' leave of absence about Nov. 20, 1911.

Rich, Edwin W., captain, will, in addition to his other duties, assume charge of the medical supply depot, San Francisco, during the absence of Colonel William W. Gray, Medical Corps.

Hungerford, George H., M.R.C., resignation accepted.

Buchsbaum, Maurice, M.R.C., ordered to Army General Hospital, San Francisco, for observation and treatment.

McIntyre, captain, granted leave of absence for three months when his services can be spared, with permission to go beyond sea.

Fletcher, John P., lieut., granted leave of absence for one month.

Tetrault, Charles A., M.R.C., assigned to permanent station at Fort H. G. Wright, N. Y.

Craig, Charles F., capt., is detailed to attend the meeting of the Southern Medical Association, at Hattiesburg, Miss., Nov. 14 to 16, 1911.

Robbins, Chandler P., major, granted fourteen days' leave.

Voorhies, Hugh G., dental surgeon, granted twenty days' leave.

Kirkpatrick, Thomas J., major, granted ten days' leave.

Bushnell, George E., colonel, granted thirty days' leave.

Davis, William T., captain, granted ten days' leave of absence.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended Sept. 20, 1911.

Guiteras, G. M., surgeon, detailed to represent the service at the fifth international sanitary conference of American republics, to be held at Santiago, Chile, Nov. 5-12, 1911.

Ramus, Carl, P. A. surgeon, granted seven days' leave of absence from Aug. 24, 1911, under paragraph 189, Service Regulations.

Warren, B. S., P. A. surgeon, granted ten days' leave of absence from Sept. 20, 1911.

Stimson, A. M., P. A. surgeon, directed to proceed to Detroit, Chicago and Milwaukee on special temporary duty. Detailed to attend the meeting of the Michigan State Medical Society, in Detroit, Sept. 27 and 28, 1911, and the meeting of the Chicago Medical Society, Oct. 4, 1911.

Krulish, E., asst.-surg., granted one month's leave of absence from Sept. 12, 1911.

Bond, B. D., A. A. surgeon, granted leave of absence, without pay, for the period Aug. 25, 1911, to Jan. 1, 1912.

Crepin, H. E., A. A. surgeon, granted twenty-one days' leave of absence from Sept. 1, 1911.

Fairbanks, George D., A. A. surgeon, granted thirty days' leave of absence from Sept. 11, 1911.

Markoe, W. W., A. A. surgeon, granted thirty days' leave of absence from Sept. 19, 1911.

Marsh, W. H., A. A. surgeon, granted eleven days' leave of absence from Sept. 23, 1911.

Medical Economics

THE NATIONAL GRANGE AND A DEPARTMENT OF HEALTH

In his remarkable speech before the United States Senate, in July, Senator Works of California said that the National Grange had withdrawn its endorsement of a national department of health. In an open letter addressed to Senator Works, the secretary of the Conference of Progressive State Granges cites the official proceeding of the National Grange to show that, instead of repudiating its endorsement of a department of health, the National Grange reaffirmed its approval of the establishment of such a department. Mr. Hampton's letter is worthy of careful reading.[1]

"*Hon. John D. Works, United States Senate, Washington, D. C.*

"Dear Sir.- I have read with great care your speech opposing Senator Owen's bill to establish a department of health, as published in the *Christian Science Monitor* of July 11.

"You support your argument with quotations from various authorities, among them resolutions purporting to have been forwarded by C. M. Freeman, secretary of the National Grange, showing that the National Grange had completely reversed its position. If Mr. Freeman forwarded such resolutions in the form in which you have published them, he knowingly misrepresented the action of the National Grange, and his action will undoubtedly be investigated by that body at its next annual meeting.

"To prove to you that the Grange position endorsing the establishment of a federal bureau of public health was not reversed by the National Grange at Atlantic City, or by any state granges of large membership at their state meetings of later date, I submit:

"(*a*) Page 167 of the official proceedings of the Atlantic City session, containing the introduction of the general report of the Committee on Resolutions, the opening part of which reads as follows: 'We reaffirm the resolutions and declarations of the general report of the Committee on Resolutions, made and unanimously adopted at the forty-third annual session, held one year ago at Des Moines, Iowa, on public health bureau, on home economics, on tariff revision,' etc.

"(*b*) The April, 1911, issue of the *Michigan Patron* (the official organ of a number of state granges, aggregating a large percentage of the total grange membership) contains an editorial, 'The Grange Position on Public Health,' in which a statement made in a circular letter by the League for Medical Freedom, that the Grange had reversed its position on public health, is reviewed at length and proved not true. This proof, you will note, includes resolutions by the National Grange and editorials by the national master.

"(*c*) A copy of the health resolutions adopted by the Maine State Grange at its annual meeting in Augusta, Dec. 20-22, 1910. The points in these resolutions to which I especially desire to call your attention are: 'That we reindorse the establishment of a federal bureau of public health, as set forth in the resolutions adopted by the National Grange at the forty-third annual session at Des Moines, Iowa, Nov. 10-20, 1909, provided that such legislation properly safeguards the rights of all schools of medical practice,' and 'That the Conference of State Granges is urged to take such action as may be expedient to unite all farmers in supporting a public health policy in the interests of all the people, and that the conference appeals to all public-spirited citizens to unite with the farmers in this important work.'

"You will notice from the above (*a*) that the *first* of the public measures *re*-indorsed by the National Grange at Atlantic City was the action of the Des Moines meeting in 1909, on public health. I submit the resolution thus emphatically *re*-indorsed:

"'*Resolved*, That the National Grange favors the establishment of a national health bureau or commission, and urges on Congress the necessity for the immediate enactment of legislation for this purpose.'

"I sincerely believe you would not willingly help to place the Grange in a false light before the country, but I feel you have been misled, and have unwittingly been made the means by which this has been done. And as your speech has been given wide publicity in the *Congressional Record* and in the public press, I address this open letter to you in order that the true position of the Grange may be placed before Congress and the people.

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[1] See also Current Comment, page 1140.

"For the honest opposition of yourself and the Christian Scientists in general, I have the most sincere respect; but it is the opposition which seeks to gain its object by tricks and misrepresentations, and by exciting the fears and prejudices of the people, which convinces us that back of all the honest opposition—and no doubt unknown to it—are the same interests that are fighting the pure food laws, and which, even at this writing, hope to succeed in forcing Dr. Wiley out of office.

"It is this opposition which we feel should be forced out into the open, where its nature can be fully understood. If this is done, it will at once remove much of the present misunderstanding, and Christian Scientists and all who sincerely desire honest medical freedom should assist in accomplishing this.

"Christian Scientists fear the consequences that would follow the enactment of such legislation as the Owen bill proposes. If that fear is well founded, and your belief that the American Medical Association is a medical trust is well founded, is it not time that the country knew these and all the facts relating to this burning question? What possible better means have we than a rigid Congressional investigation by a committee specially organized for that purpose?

"The House of Representatives, as at present constituted, is believed to be honestly desirous of serving the people. It is investigating the trusts, probing into the expenditures of the various departments of the government, and why should it not have a committee on health and thoroughly investigate this matter of such vital importance to all the people. Surely the Christian Scientists are not opposed to honest investigation by a committee having power to probe every charge and countercharge to the bottom.

"The farmers want the facts and a square deal for all the people—Christian Scientists and all schools of medicine included—and Christian Scientists should join with them in their present efforts to get Congress to appoint a committee on public health and promptly institute a thorough investigation Farmers and Christian Scientists should not work at cross-purposes on so important a matter. Honest investigation by Congress is the way to bring them together, and I appeal to you to use all your influence to bring this about

"George P. Hampton.
"Secretary, Conference Progressive State Granges."

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

[Note.—The pamphlets containing the outline of the postgraduate study course for county societies for the coming year are ready for distribution. Secretaries of county societies can secure supplies by writing to the Secretary, Council on Health and Public Instruction, American Medical Association, 535 Dearborn Ave., Chicago.]

First Month—Fourth Weekly Meeting

Papilloma: Origin, Structure, Varieties

Warts: Microscopic section, distribution, number, pigment, secondary changes.

Villous Papilloma: Structure, gross and microscopic, prognosis.

Intracystic Papilloma: Structure, gross and microscopic, distribution.

Psammoma: Structure, chemistry, location, prognosis.

Adenoma

Structure, varieties, capsule, fluid, recurrence, infiltration; secondary changes.

Dermoids: Structure, Distribution

Sequestration Dermoids: Location, mode of origin, contents, prognosis.

Tubulo-Dermoids: Distribution, contents, size.

Lingual, Branchial and Rectal: Location of each.

Ovarian Dermoids: Origin, structure, contents, size, age.

Moles: Distribution, structure, secondary changes.

Teratoma

Differentiate from dermoids.

Cysts: Mode of Origin, Structure, Contents

Retention cysts, tubulo-cysts, hydroceles and gland cysts.

Monthly Meeting

The Differential Diagnosis of Benign and Malignant Tumors.

The Problem of Metastasis in the Treatment of Malignant Tumors.

The Diagnosis and Treatment of Tumors of Long Bones.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Arizona: Phoenix, October 2-3. Sec., Dr. Ancil Martin.

Colorado: The State Capitol, Denver, October 3. Sec., Dr. David A. Strickler, 612 Empire Building.

Georgia: Regular, Atlanta, October 10. Sec., Dr. C. T. Nolan, Marietta. Homeopathic, Atlanta, October 10. Sec., Dr. R. E. Hinman, 106½ Whitehall Street.

Idaho: Wallace, October 3-4. Sec., Dr. O. J. Allen, Bellevue.

Illinois: Coliseum Annex, Chicago, October 26-28. Sec., Dr. J. A. Egan, Springfield.

Kansas: National Hotel, Topeka, October 10-12. Sec., Dr. H. A. Dykes, Lebanon.

Louisiana: New Orleans, October 19-21. Sec., Dr. A. B. Brown, 108 Baronne Street.

Michigan: Legislative Bldg., Lansing, October 10-12. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

Minnesota: State University Minneapolis, October 3. Sec., Dr. W. S. Fullerton, St. Paul.

Mississippi: State Capitol, Jackson, October 10-11. Sec., Dr. S. H. McLean.

Montana: The Capitol, Helena, October 3. Sec., Dr. W. C. Riddell.

New Jersey: The State Capitol, Trenton, October 17-18. Sec., Dr. H. G. Norton, 429 E. State Street.

New Mexico: The Capitol, Santa Fe, October 9-10. Sec., Dr. J. A. Massie.

Oklahoma: Muskogee, October 10. Sec., Dr John W. Duke, Guthrie

Rhode Island: Room 315 State House, Providence, October 5-6. Sec., Dr. Gardner T. Swarts.

Utah: Salt Lake City, October 2-3. Sec., Dr. G. F. Harding, 310 Templeton Building.

Wyoming: Riverton, October 9-11. Sec., Dr. A. B. Tonkin.

Illinois January Report

Dr. James A. Egan, secretary of the Illinois State Board of Health, reports the written examination held at Chicago, January 11-13, 1911. The number of subjects examined in was 16, total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 53, of whom 17 passed and 32 failed. Three candidates did not complete the examination and one withdrew. The following colleges were represented:

College	Year Grad.	Total No. Examined
PASSED		
University of Arkansas	(1909)	1
American Medical Missionary College	(1903)	1
Chicago College of Medicine and Surgery	(1910)	1
Northwestern University Medical School	(1889) (1910)	2
National Medical University	(1909)	1
College of Physicians and Surgs., Chicago	(1904) (1910)	2
Reliance Medical College	(1910)	1
Rush Medical College	(3, 1910) (1911)	4
St. Louis College of Physicians and Surgeons	(1910)	1
Jefferson Medical College	(1908)	1
University of Pennsylvania	(1886) (1908)	2
FAILED		
Bennett Medical College	(1909) (5, 1910) (1911)	7
Hahnemann Medical College and Hospital, Chicago	(1909)	1
Hering Medical College	(1910)	2
Jenner Medical College	(1910)	2
College of Medicine and Surgery, Physio-Medical	(1910)	3
National Medical University	(1909)	1
College of Phys. and Surgs.	(1907) (1908) (2, 1910)	4
Keokuk Medical College, Coll. of Phys. and Surgs.	(1908)	1
Hospital Medical College, Louisville	(1904)	1
Louisville and Hospital Medical College	(1908)	1
Barnes Medical College	(1907) (2, 1910)	3
St. Louis University	(1907)	1
Miami Medical College	(1909)	1
Meharry Medical College	(1902) (1909) (1910)	3
Western University, London, Ontario	(1892)	1

Tennessee May Report

Dr. C. A. Abernathy, secretary of the Tennessee State Board of Medical Examiners, reports the written and oral examinations held at Nashville, Knoxville and Memphis, May 2-3, 1911. The total number of subjects examined in was 8; total number of questions asked, 64; percentage required to pass, 75. The total number of candidates examined was 276, of whom 213 passed, including 110 non-graduates, and 42 failed, including 30 non-graduates. Twenty-one candidates received temporary licenses, including 9 non-graduates. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Birmingham Medical College	(1910)	82
Howard University, Washington, D. C.	(1910)	75, 76
George Washington University	(1907)	90
College of Physicians and Surgeons, Chicago	(1907)	88
Northwestern Univ. Med. School	(1907) 80, 88; (1910)	84
Louisville National Medical College	(1911)	78

University of Louisville (1910) 80, 81, 86; (1911) 77, 78, 79, 79, 81, 81, 82, 83, 83, 83, 84, 84, 84, 85, 85, 86, 89, 89, 89, 90, 94.
Tulane University of Louisiana..................(1907) 87 87
Johns Hopkins University........................(1910) 88
Detroit College of Medicine.....................(1908) 85
Washington Univ. School of Med., Baltimore......(1868) 86
Barnes Medical College..........................(1911) 84, 87
Washington University, St. Louis..(1909) 82, 89; (1911) 78
Mississippi Medical College..........(1909) 79; (1911) 85
Memphis Hospital Medical College (1906) 83, 94; (1908) 80, 83, 87; (1911) 75, 75, 75, 76, 77, 78, 80, 80, 81.
Chattanooga Medical College.....................(1908) 75
Lincoln Memorial University (1911) 76, 76, 79, 79, 81, 81, 81, 82, 83, 84, 88.
Meharry Medical College (1904) 76; (1908) 75; (1909) 76; (1910) 75, 76, 79, 81; (1911) 75, 79, 84, 85, 86, 87, 88, 90, 90.
University of Tennessee.........(1900) 78; (1911) 83, 83, 88, 90
Vanderbilt University ....(1911) 78, 89, 89
University of Nashville.........................(1911) 80, 92
University of the South..........................(1909) 78
College of Physicians and Surgs., Memphis..(1911) 81, 89, 89, 90
University of Virginia...........................(1905) 87
Non-graduates: The grade of 75 was reached by eight; 76 by one; 77 by five; 78 by two; 79 by eight; 80 by seven; 81 by nine; 82 by five; 83 by three; 84 by six; 85 by ten; 86 by four; 87 by six; 88 by seven; 89 by ten; 90 by five; 91 by five; 92 by four; 93 by one and 94 by two. The grade for one non-graduate was not obtained.

GRANTED TEMPORARY LICENSES

University of Louisville............(1894) 74; (1909) 70
Lincoln Memorial University.....................(1911) 70, 71
Chattanooga Medical College..........(1905) 72; (1910) 72
Meharry Medical College........(1910) 70, 71; (1911) 71, 73
Memphis Hospital Medical College...............(1910) 70, 70
Non-graduates.................71, 72, 72, 72, 73, 73, 73, 74, 74

FAILED

Mississippi Medical College.....................(1910) 69
Chattanooga Medical College..........(1903) 48; (1907) 47
Lincoln Memorial University........(1906) 61; (1911) 51, 63
University of West Tennessee.........(1909) 60; (1910) 49
University of the South.........................(1909) 52
Memphis Hospital Medical College...............(1911) 69
Meharry Medical College........................(1910) 57
Chattanooga National Medical College..........(1908) 80 *
Non-graduates 32, 33, 50, 50, 50, 52, 56, 57, 58, 60, 60, 60, 60, 60, 60, 60, 61, 63, 63, 63, 64, 65, 65, 67, 68, 68, 68, 69, 87.*
The grade for one non-graduate was not obtained.

* These two applicants made the requisite grade to pass, but charges of fraud have been brought, and they most probably will be rejected; hence they are put in the list of those who failed.

The following questions were asked:

ANATOMY

1. Describe the portal system. Name the ductless glands. 3. What cranial nerve has the widest distribution? 4. Give the origin and insertion of the humeral biceps muscle. 5. Mention any one muscle that moves the humerus forward, backward or inward. 6. Describe Hunter's canal. (a) What passes through it? 7. Describe the periosteum. 8. What muscles for the tendo Achillis?

PHYSIOLOGY

1. Give composition and properties of chyle. 2. Give composition of the blood. 3. Describe secretion, properties and composition of gastric juice. 4. Give the physiologic anatomy of the testicles. 5. Describe the physiologic anatomy of the tongue concerned in gestation. 6. Give the physiologic anatomy of the mammary glands. 7. Describe the excretion of urine. 8. Name all the enzymes required to digest bread.

PATHOLOGY

1. What is stomatitis? Give the pathology of ulcerative stomatitis. 2. Describe any one pathologic condition caused by the excessive use of alcohol. 3. Describe the pathologic changes which take place in the lung in lobar pneumonia. 4. Give the pathology of parenchymatous goiter. 5. Describe the pathology of the inflammation of any one serous membrane. 6. Describe the pathology of chronic lead poison. 7. Describe the pathology of cerebrospinal meningitis. 8. Describe the pathologic condition caused by the bite of a mosquito.

MATERIA MEDICA

1. Write a prescription for chronic malaria and state how long the patient should take it. 2. Name two medicines which increase the flow of urine. The source and dose of each. 3. What is the source of digitalis and hyoscyamus? What preparation would you use and the dose of each? 4. What is the source of potassium iodid and what is the dose? Name three diseases for which you would give it. 5. Give the source of iodid of lime and iodid of soda and the dose of each. 6. What is sodium sulphate? 7. What is the source of tetanus antitoxin? 8. What is the source of cascara sagrada? What preparation would you use and what would be the dose?

CHEMISTRY

1. Describe Esbach's albuminometer and give a quantitative test for albumin. 2. Give a chemical test for pus in the urine; (a)-for blood. 3. What is urea? (a) Its estimation? (b) Of what significance in nephritis? 4. What are alcohols and how classified? 5. Give chemical formula for iodoform. (a) How prepared. (b) Physiologic effects. 6. What is a simple ether? (a) Compound ether? (b) Formula for sulphuric ether? 7. What is benzine? (a) Chemical formula and properties? 8. What is arsenic? (a) Occurrence? (b) Preparation? (c) Properties? (d) Reinsch's test for arsenic?

OBSTETRICS

1. Describe, anatomically, the internal generative organs of the female. (a) State the function of each. 2. What are the dangers of traction on the child and on the placenta? 3. What is involution? (a) How long a time is usually required for this process? (b) What causes may operate to delay or prevent it? 4. Describe the immediate care of the new-born child when from any cause the mother cannot nurse it. (a) Give rules for artificial feeding. 5. Differentiate eutocia and dystocia. Mention important varieties of the latter and give their management. 6. In a labor otherwise normal but tedious, how soon would it be proper to interfere, and what symptoms would prompt such a course? 7. When does it become proper to perform craniotomy, and how should that operation be performed? 8. Define puerperal phlebitis and give its pathology, symptoms and treatment.

SURGERY

1. How would you diagnose a case of complete inguinal hernia from a hydrocele, and describe the radical cure for hydrocele? 2. Describe in full Bassini's method of operation for the radical cure of hernia. 3. Give the nature and treatment of Pott's fracture. 4. Where does senile gangrene most often occur, and what is the usual cause? 5. Give symptoms and treatment of cholelithiasis. 6. Define peritonitis. State three ways in which the peritoneum may be invaded by bacteria. 7. What are the causes and treatment of paraphimosis? 8. Differentiate dislocation of the head of the femur from fracture of the neck, and give main essentials of treatment of each.

PRACTICE QUESTIONS

1. Name the organic diseases of the heart. Define aortic stenosis. Give the physical signs of it. 2. Define lobar pneumonia. Give general symptoms of diagnosis. Give briefly a treatment. 3. What is the pulse? Name some of the varieties of the pulse and their significance. 4. Define acute Bright's disease. What are the most frequent etiologic factors which produce this form of kidney disease? Give a treatment. 5. Define leukocytosis. Define leukopenia. Name four diseases in which the leukocytes are increased in number. Name four diseases in which the leukocytes are normal or diminished. 6. Define diabetes mellitus. Differentiate between diabetes mellitus and diabetes insipidus. Give a diet for diabetes mellitus. 7. Define dropsy. Name four diseases which it accompanies. Given a disease producing it, how would you treat dropsy? 8. Name some of the common forms of tuberculosis. Give a modern treatment for pulmonary tuberculosis.

South Carolina June Report

Dr. A. Earle Boozer, secretary of the State Board of Medical Examiners of South Carolina, reports the written examination held at Columbia, June 13-15, 1911. The number of subjects examined in was 17; total number of questions asked, 105; percentage required to pass, 75. The total number of *candidates examined was 124, of whom 97 passed, including* 2 osteopaths, and 27 failed, including 1 osteopath. Six candidates were licensed through reciprocity. The following colleges were represented.

PASSED

College	Year Grad.	Per Cent.
University of Alabama	(1907)	77.1
Birmingham Medical College	(1911)	81.6
George Washington University	(1909)	85.1
Howard University, Washington	(1910)	88
Atlanta Coll. of Physicians and Surgeons (1908) 81.6; (1910) 80.1; (1911) 80.1.		
University of Georgia (1908) 76; (1910) 75; (1911) 75, 75.7, 81.1, 84.3.		
University of Louisville (1908) 75, 75.7;	(1909)	83.5
Tulane University of Louisiana	(1911)	84.3
Woman's Medical College of Baltimore (1902) 88.4;	(1907)	78.1
University of Maryland (1910) 78.4; (1911) 75.9, 81.4, 83.4, 83.7, 87.9, 87.9, 88, 90.6.		
Johns Hopkins University (1906) 87.3;	(1910)	77.5
Niagara University	(1897)	75
Columbia Univ., Coll. of P. and S.	(1911)	83.3
North Carolina Medical College (1905) 81.1;	(1908)	76.1
Leonard Medical School (1909) 79.7; (1911) 75,		84.7
Western Reserve University	(1909)	75
University of Pennsylvania	(1910)	81.3, 82.9
Temple University	(1910)	81.5
Medical College of the State of South Carolina (1906) 75.6; (1908) 77.1; (1909) 75, 80.9; (1910) 75.1, 79.4, 79.9, 81.5, 82.3, 82.4, 85.7; (1911) 75, 75, 75.5, 75.6, 76.3, 76.4, 76.9, 77.3, 77.6, 78.3, 78.4, 78.6, 79, 80, 80.1, 80.4, 80.6, 82, 82.4, 83.1, 83.7, 84.1, 84.1, 84.3, 84.5, 84.6, 85.3, 85.5, 85.9, 86.1, 86.5, 86.9, 87.9, 89.1, 89.7, 89.9.		
Lincoln Memorial University	(1911)	84.9
Vanderbilt University	(1910)	75.3
University of the South	(1906)	75
Memphis Hospital Medical College	(1911)	76.1
Medical College of Virginia	(1911)	82.5, 84.3
University of Virginia	(1910)	84.1

FAILED

College	Year Grad.	Per Cent.
Atlanta School of Medicine	(1909)	71.9
University of Georgia	(1908)	70.5
Hospital Medical College, Atlanta	(1911)	52.7
Maryland Medical College	(1905)	57.3
Creighton Medical College	(1910)	73.4
Leonard Medical School..(1906) 70.3; (1910) 68;	(1911)	70
Medical College of South Carolina (1908) 62.6; (1909) 71; (1910) 63.5, 70, 73.6; (1911) 64.4, 66.1, 69.9, 70.3, 72.4 76.7.*		
Meharry Medical College (1907) 60.4; (1909) 73.5;	(1911)	60.5
Memphis Hospital Medical College	(1911)	51.5, 65.4
University of Tennessee	(1905)	49.9
Gate City Medical College	(1910)	61.1

* Fell below 60 per cent. in one subject.

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
George Washington University	(1909)	W. Virginia
Baltimore Medical College...(1897) Maryland;	(1898)	Virginia
University of Maryland	(1909)	Maryland
Medical College of Virginia.........(1905)	(1909)	Virginia

Book Notices

A Handbook of Practical Treatment. By Many Writers. Edited by John H. Musser, M.D., LL.D., *Professor of Clinical Medicine in the University of Pennsylvania, Philadelphia*, and A. O. J. Kelly, A.M., M.D., Assistant Professor of Medicine in the University of Pennsylvania, Philadelphia. In Three Volumes. Vol. II. Cloth. Price, $6 net. Pp. 865, with 103 illustrations. Philadelphia: W. B. Saunders Co., 1911.

The second volume of this work includes a large number of articles on diseases of the circulatory system, infectious diseases, tropical diseases and animal parasites. The general excellence of the articles is conspicuous. The following are some of those requiring special notice: The principles of cardiac treatment are given by Clifford Allbutt in a short introduction of seven pages. The certainty given to some forms of drug medication is noted, and the fallacy of concluding that high blood-pressure means necessarily an increase of work for the heart, and a fall in pressure must need give the heart relief is pointed out. The danger to the heart from the slighter degrees of endocarditis is dwelt on and Allbutt advises to examine the heart of a child with even a slight cold every day. Myocarditis receives as much attention as pericarditis and endocarditis combined. Considerable space is devoted to a discussion of digitalis, squill, caffein and theobromin. The author expresses his belief that while squill is seldom necessary, this old cardiac remedy should not be allowed to fall into neglect. In some cases the prescription of 15 minims of tincture of squill may succeed when others of these capricious cardiac remedies have failed. Allbutt gives comparatively little credit to alcohol as a remedy in heart disease. In the treatment of dropsy, he finds that the exclusion of salt from the diet has not infrequently an astonishing success, but he is unable to define the conditions under which it succeeds. The hydropathic treatment and especially the Nauheim method are quite fully described. The surgery of the heart and artery is briefly discussed by C. T. Dent.

Typhoid fever is well treated by R. I. Cole. The subject of preventive inoculation is thoroughly discussed and the method advised. Considerable space is given to specific cure of the disease, as the author feels that this method may make possible the cure of all cases in the future. He takes a conservative position with reference to diet and expresses a decided preference for hydrotherapy over antipyretics. Pneumonia is discussed by H. A. Hare, who advocates the usual methods but warns against the abuse of strychnin and the employment of nitroglycerin, for the purpose of lowering arterial pressure. The treatment of exanthematous diseases is described by C. H. Weaver. He gives a full account of the theoretical and practical aspects of the antitoxin treatment. Intubation and tracheotomy are described in a well-illustrated article by J. H. Jopson. In accordance with its importance, tuberculosis occupies a considerable section of the book, something more than 100 pages. The article is by E. O. Otis. The hygienic methods and the details of open-air treatment are fully given with abundant illustrations. The same is true of the construction of sanatoriums and methods of sanatorium treatment. The author reviews the various specific and medicinal forms of treatment, but in conclusion emphasizes the immense superiority of the hygienic-dietetic measures. Syphilis is treated by J. W. White and A. C. Wood. Gonococcic infection is well treated by E. Martin. Vaccinia, variola and chicken-pox are discussed by J. F. Schamberg. Cerebrospinal fever, cholera and plague are considered by L. F. Barker. In the treatment of cerebrospinal fever the author makes several suggestions, such as the injection of normal serum suggested by Hektoen and a modification of Bier's hyperemia as worthy of trial when Flexner's serum cannot be obtained. The rest of the book is occupied with the treatment of various infectious diseases by a number of authors whose work is excellent, but which is impracticable to mention separately.

The reading of this volume strengthens the impressions given by the first that we have a satisfactory presentation of the resources of the modern physician which ought to be a valuable guide to the practitioner in his daily work.

Pathologic Technic. A Practical Manual for Workers in Pathologic Histology and Bacteriology, Including Directions for the Performance of Autopsies and for Clinical Diagnosis by Laboratory Methods. By Frank Burr Mallory, A.M., M.D., Associate Professor of Pathology, Harvard University Medical School, and James Homer Wright, A.M., M.D., S.D., Director of the Pathological Laboratory of the Massachusetts General Hospital. Fifth Edition. Cloth. Price, $3. Pp. 507, with 162 illustrations. Philadelphia: W. B. Saunders Co., 1911.

The revision of this edition seems to be a thorough one, and a number of new methods of practical value have been introduced. The methods of obtaining the opsonic index, however, are not given. The Wassermann technic is described, but not a word is said about the tuberculin reaction, which one would expect would be described in a book that claims to give directions for clinical diagnosis by laboratory methods. No reference is made to blastomycosis or oidiomycosis; an illustration or two of the characteristic organisms would be helpful, and the same is true of sporotrichosis. One is also surprised that no mention is made of the appearance of pneumococcal and streptococcal colonies on blood-agar. In the next edition the references should be given according to some uniform method and standard abbreviations should be used.

The Bellevue Hospital Nomenclature of Diseases and Conditions with Rules for the Recording and Filing of Histories. Compiled by the Committee on Clinical Records Composed of Drs. Robert J. Carlisle, Warren Coleman, Thomas A. Smith and Edmund L. Dow. Revised and Made to Conform to the International Classification, 1911. Morocco. Pp. 327. [General Medical Superintendent, Bellevue Hospital, First Avenue and 26th Street, New York City.]

The nomenclature of diseases compiled by the committee on clinical records of Bellevue Hospital is too well known to students of vital statistics to require any description. The present edition is conveniently and substantially prepared, being in the form of a small volume with flexible leather covers which can be carried easily in the pocket. The work was published first in 1903 and revised in 1909; the present edition has been collated with the international list of causes of death, while the orthography conforms to the Basel nomenclature endorsed by the Committee on Nomenclature of the American Medical Association. Until such time as we have a single, official and universally observed system of nomenclature, the Bellevue Hospital system will be of great value and will, doubtless, have many followers.

Die epidemische Kinderlähmung (Heine-Medinsche Krankheit). Von Dr. Paul H. Römer, Abteilungsvorsteher am Institut für Hygiene und experimentelle Therapie in Marburg. Paper. Price, 10 marks. Pp. 256, with 57 illustrations. Berlin: Julius Springer, 1911.

This work will be welcomed by those interested in poliomyelitis, especially in its epidemic manifestations. It contains, in addition to the author's own well-known researches, during the epidemic of 1909 in Marburg, into the transmission of the disease to monkeys, studies in immunity, etc., a complete exposition of the whole subject from a historical, clinical, pathologic, pathogenic and therapeutic point, up to the very latest work of Flexner and Clark in this country. It deals as fully with the future, the great unsolved problems, as with that which is known. The illustrations showing monkeys to which the disease has been transmitted, and also the histology of the disease, are excellent. At this time when laymen are as interested as physicians in this mysterious disease that has seemed, at least, to have taken on new characteristics in the last decade, this little volume should find a welcome place.

Minnesota Mushrooms. Booklet IV of Minnesota Plant Studies, of University of Minnesota, Minneapolis. By Frederic E. Clements, Professor of Botany and State Botanist. Paper. Price, 50 cents. Pp. 169, with 124 illustrations.

This creditable piece of work, elaborately illustrated—partly in colors—gives rules for collecting, preparing and cooking. Particular instructions are given for recognition of poisonous specimens. The preface calls attention to the enormous annual crop, now almost wasted, either through fear or neglect. Probably the total value of mushroom crop of the state is nearly a million dollars. The pamphlet is interesting, practical and valuable. It may not particularly reduce the cost of living but it will enable many people to enjoy this easily obtained food.

Medicolegal

Construction of Statute as to Privileged Communications and Waivers of Privilege, Especially as Between Several Physicians

(Missouri & North Arkansas Railroad Co. vs. Daniels (Ark.), 136 S. W. R. 651.)

The Supreme Court of Arkansas favors a liberal construction of the statute of that state which provides that "no person authorized to practice physic or surgery, and no trained nurse, shall be compelled to disclose any information which he may have acquired from his patient while attending him in a professional character and which information was necessary to enable him to prescribe as a physician or to act for him as a surgeon or trained nurse." The court says that this enactment was manifestly made for the benefit of the patient. Its evident purpose was to throw around him a protecting shield so that he might freely and fully disclose to his physician every fact relative to his ailment with the confident knowledge that the information thus obtained could not be divulged to his injury or disgrace. Being for his benefit, the provision was adopted out of reasons of public policy as a privilege accorded solely to the patient; and, like any other privilege, it is one that the patient may waive.

By the terms of this statute, a physician is prohibited from disclosing information obtained while treating his patient, but it has been uniformly held by the courts of those jurisdictions having similar statutes that the provisions thereof must receive that construction which was intended by the legislature which framed them; and that is that the patient himself may waive the privilege of the statute in order to obtain the benefit of the physician's evidence. When this privilege is waived as to any particular witness, the opposing side is entitled to the benefit of the waiver as to such witness. But the benefit of such waiver in behalf of the adversary should not extend further than to the witness who has been called by the patient, or as to other physicians who may have been present on the same occasion to which the witness testifies.

By virtue of the statute the patient is alone given the right to remove the ban of secrecy. The patient may be willing to waive the objection of incompetency as to a particular physician in whom he reposes confidence, and yet be unwilling to waive this objection as to another, who treated him at a different time for the trouble complained of. The statute affords him this privilege, when the testimony of the offered witness does not relate to the same occasion as that from which the patient has removed the seal of secrecy.

When a patient divulges what occurred between himself and a certain physician who treated him, that would waive his privilege regarding a disclosure of all that such physician knew and all that occurred at the time that such physician treated the patient; but that would not authorize the opposing side to call another physician who might have treated the patient at another and different time for the same disease. So the court is of the opinion that the plaintiff, by the introduction of the testimony of a physician relative to his treatment of her after her injury, did not waive her privilege to object to the testimony of other physicians who had treated her prior to that time, although for the same alleged trouble.

Nor does the court consider that there was a waiver of privilege when the plaintiff was asked, on cross-examination, if the physicians whom the defendant company desired to introduce as witnesses as to her condition prior to her alleged injury had not treated her for displacement of the womb, and she denied it. The company urged that it was entitled to have the benefit of those physicians' testimony in order to contradict the plaintiff. But, if the defendant's position in that respect should be upheld, then the above statute in regard to privileged communications would be easily evaded. In any cause where the opposing party desired to obtain the testimony of an attending physician, it could be secured in like manner, although against the objection of the patient. The plain provisions of the statute forbidding such testimony by a physician cannot thus be abrogated.

Liability for Results of Bruise Followed by Cancer

(Louisville Railway Co. vs. Steubing's Administrator (Ky.), 136 S. W. R. 634)

The Court of Appeals of Kentucky affirms a judgment for $7,500 damages against the railway company for injuries sustained by Mrs. Steubing in being thrown from one of the defendant's cars as she was about to alight from it. A sudden start was alleged to have thrown her from the platform to the ground. She was a large woman. The handle of an umbrella which she had in her hand bruised her breast as she fell on the ground. She thought at the time that she was not hurt, and said so, but soon found that she was worse hurt than she supposed, and was under a physician from the time of the accident and suffered very greatly. Within six months after the accident, a tumor appeared on her breast at the point where it was bruised by the umbrella handle. It was then about as large as an English walnut, and the physician advised her to have an operation performed, but that she did not do, and about a year after that she returned to the physician, who told her that she must have the operation performed at once. The tumor had then developed into a cancer of the breast. The operation was performed, but she died not long afterward.

It was earnestly insisted that all the evidence as to the cancer should have been excluded from the jury, as it was not shown that that was the direct and proximate result of the injury. That, however, the court answers by saying that the testimony of the physicians introduced on behalf of the plaintiff was to the effect that 15 per cent. of cases of cancer of the breast may be traced back to a traumatic injury; that the cause of cancer is unknown, and that it is not known that the injury in these cases was the cause of the cancer. But the physicians gave it as their opinion that in a glandular structure like the breast, where the circulation is very extensive, there are what are called embryonic cells, and that a bruise would start an embryonic cell to growing and develop into a growth different from the original growth; that falling from a street car, and having an umbrella punched into her breast, would be a sufficient or probable cause for the condition in which they found her; that the injury would not cause the cancer, but it might bring about a condition which would result in it when a cancer would not have otherwise existed; that any chronic inflammatory condition in the breast was liable to bring about such a condition, and that a great per cent. of the tumors of the breast in women took on at some time malignancy. These physicians stated facts sustaining the view which they advanced, and the defendant offered no contradictory evidence. The proof for the plaintiff was to the effect that Mrs. Steubing was a strong, healthy woman, without an ache or a pain until her injury; that after that she was never without pain, and the severity of her sufferings, as well as their constancy, tended strongly to confirm the conclusion of the physicians that the malignant cancer was the result of the bruised condition of the breast which she received in the fall. At any rate, there was sufficient evidence on that point to go to the jury.

Liability of Masseurs for Practice of Medicine—When Law Took Effect

(Dankworth vs. State (Tex.), 136 S. W. R. 788)

The Court of Criminal Appeals of Texas affirms a conviction of the defendant Dankworth of unlawfully practicing medicine. He claimed to be a masseur. The state's witness testified that he took his wife, who was suffering with some female disease, to see the defendant, and he said he could cure her. He said that she needed a wash for use at home, and said that he would call at the drug store and have it put up, which was done. He treated her at his home, and charged $20. The court says that, under its holdings that those who, for pay, practice massage for the cure of disease, practice medicine, it became immaterial whether or not a charge was made for the prescription at the drug store.

The jury was instructed that the provisions of the medical practice act of 1907 do not apply to masseurs in their particular sphere of labor, who publicly represent themselves as such; but a masseur is not permitted under the law to treat, or offer to treat, diseases or disorders, mental or physical, or to effect cures thereof, and charge therefor, directly or indirectly, money or other compensation. This charge was in accordance with the decisions of this court.

It was insisted that the medical practice act approved April 17, 1907, did not become effective until one year and ninety days after the adjournment of the legislature, on April 12, 1907; but the court does not think that such contention was the proper or legitimate conclusion to be placed on the act. The act itself became effective within ninety days after the adjournment of the legislature—on the 12th day of July, 1907. In the act, in Section 6, it is provided: "Within one year after the passage of this act all legal practitioners of medicine in this state, who, practicing under the provisions of previous laws, or under diplomas of a reputable and legal college of medicine, have not already received license from a state medical examining board of this state, shall present to the Board of Medical Examiners for the State of Texas documents, or legally certified transcripts of documents, sufficient to establish the existence and validity of such diplomas or of the valid and existing license heretofore issued by previous examining boards of this state, or exemption existing under any law," etc. Laws in force prior to the passage of that act required the diploma or license of a physician to be filed and recorded in the office of the clerk of the district court in the county in which one proposed to practice, and inasmuch as the defendant testified that he never filed in any county a license to practice medicine, the exceptions in the act could not avail him. If he had held a diploma from a reputable or legal college of medicine, or a license issued by previous examining board, it would have been a matter peculiarly within his knowledge, and if he had relied on that as a defense he should have made that proof.

Action for Malpractice Barred by Statute of Limitations

(Lotten vs. O'Brien (Wis.), 131 N. W. R. 361)

The Supreme Court of Wisconsin reverses a judgment obtained by the plaintiff and directs that the complaint be dismissed because it holds that the alleged right of action for malpractice was barred when the action therefor was commenced on November 13, 1909. The court says that the complaint charged that on August 24, 1908, the plaintiff employed the defendant to set, etc., a broken arm. It appeared that the acts of negligence complained of took place not later than September 26, 1908, when the treatments by the defendant ceased. The mere fact that there was no discharge of the defendant on that date would not change this result. The statute of limitations began to run when the cause of action accrued and this accrued when the negligent acts were committed, without reference to the time of discharge. The real negligent act which caused the injury to the plaintiff was the improper setting of the bones in his arm. The negligent omission to discover this occurred at such dates and times as the defendant undertook to examine, treat, and care for the disabled arm. At that time the Wisconsin statute of limitations applicable was one of one year, and the limitation of one year having begun to run when the two-year act of 1909 went into effect, and the latter act providing a new period of limitation, the former limitation statute was continued in effect as to such former acts under Wisconsin law.

A Physician Cannot Testify as to Examination Made to Aid Compromise

(Woodward vs. Southern Railway Co. (S. C.), 70 S. E. R. 1060)

The Supreme Court of South Carolina holds that, there being evidence that the plaintiff's counsel and an agent for the defendant entered into negotiations looking to a compromise settlement of the plaintiff's claim, for personal injuries, and that, in the course of these negotiations, and in furtherance of them, it was agreed that a certain physician should make an examination of the plaintiff, to ascertain the extent of his injuries, evidence of disclosures made by either party to the other, directly or indirectly, in negotiations for a compromise, not being admissible, testimony of the physician as to the examination was properly excluded.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Journal of Infectious Diseases, Chicago

September

1 *Local Production of Antibodies. L. Hektoen, Chicago.
2 *Resistance of Tubercle Bacilli to Dry Heat. C. Krumwiede, New York.
3 Effect on Protoplasm of Nitella of Various Chemical Substances and of Microorganism Introduced into the Cavity of Living Cell. M. A. Barber, Kansas City.
4 *Antistreptococcus Serum. G. H. Weaver and R. Tunnicliff, Chicago.
5 Studies on Chemistry of Anaphylaxis. Experiments with Isolated Proteins, Especially Those of the Hen's Egg. H. G. Wells, Chicago.
6 *Bactericidal Action of Quinone and Other Phenol Oxidation Products as Determined by Rideal-Walker Method. W. Thalhimer and B. Palmer, Charlottesville, Va.
7 Pneumococcus Anaphylaxis and Immunity. E. C. Rosenow, Chicago.

1. **Local Production of Antibodies.**—The results obtained from experiments by Hektoen do not point to any local production of specific antibodies in dogs injected with goat or rat corpuscles, at least not so far as concerns the tissues about the anterior chamber of the eye, the tissues of the pleura, and the subcutaneous tissues.

2. **Resistance of Tubercle Bacilli to Dry Heat.**—Krumwiede found that air-dried tubercle bacilli are many times more resistant to dry heat than are bacilli heated in fluids or steam.

4. **Antistreptococcus Serum.**—Antistreptococcus serums were found by Weaver and Tunnicliff to lose their opsonic power rapidly, which may for some time be largely restored by the addition of fresh human or guinea-pig serum. Guinea-pigs may be protected against virulent cultures of streptococci by previous injection of antistreptococcus serums. The protective power of immune serums continues so long as they can be reactivated by fresh serum. Injections of immune serums in guinea-pigs may be followed by increased activity of leukocytes of short duration and by an increased opsonic power for streptococci in the blood-serum persisting for about ten days. The immunity in guinea-pigs produced by injection of immune serum persists for about eight days. Of three fresh commercial serums manufactured in the United States which were tested, two were active and one inactive. The two European serums were active. Fresh normal human serum and fresh human serum from persons infected with streptococci are able to reactivate antistreptococcus serums. This indicates that such serums may have some protective and curative effect in man in cases of streptococcus infections. The specific antistreptococcus bodies are resistant to heat and chemicals (trikresol, 0.4 per cent. chloroform) and are closely associated with the pseudoglobulins of the immune serum. The authors stated that it would be desirable to have some guarantee of the activity of antistreptococcus serums offered for sale.

6. **Bactericidal Action of Quinone.**—Thalhimer and Palmer found quinone the most efficient bactericidal substance yet reported; phenol-quinone is less active than quinone, and hydroquinone still less so. They emphasize that many of the commonly-used disinfectants and antiseptics, such as bichlorid of mercury, formaldehyd. argyrol, protargol, etc., are relatively inefficient in strengths used. Iodin, alcohol in strengths above 50 per cent., and silver nitrate in solution of 1-1,000 are very efficient bactericidal agents. Potassium cyanid and hydrocyanic acid, although powerful organic poisons, have a weak bactericidal action. The phenol coefficient of crude phenol is 4, of trikresol is 2.2 and of parakresol is 2.8, thereby disproving the statement that a combination of all three cresols is more powerful than any one of them. Beta-naphtol and sodium hydroxid neutralize one another's bactericidal action, and this would also occur in the intestine and so render the former substance useless as an intestinal antiseptic. The work of recent observers and the authors' results indicates the advantage of getting away from the use of bichlorid in surgical technic and the substitution for it of tincture of iodin and 50 per cent. alcohol.

American Journal of Obstetrics, New York

September

8 *Repeated Ectopic Pregnancy. R. R. Smith, Grand Rapids, Mich.
9 *Hydatid Mole. H. N. Vineberg, New York.
10 Pathology of Hydatid Mole and Chorio-Epithelioma and Their Relation to Normal Pregnancy. R. T. Frank, New York.
11 Pelvic Infections (Gonorrheal). J. Brettauer, New York.
12 Puerperal Infections. J. O. Polak, Brooklyn.
13 *Radical Treatment of Pelvic Inflammation. E. P. Davis, Philadelphia.
14 Strangulated Inguinal Hernia in the Female. H. A. Royster, Raleigh, N. C.
15 Treatment of Breast Cancer. T. Abbe, Washington, D. C.

8. Abstracted in The Journal, July 8, 1911, p. 162.

9. **Hydatid Mole.**—Of Vineberg's three cases following hydatid mole, two patients were operated on four years ago; one patient is in good health at the present time; the other was lost sight of shortly after leaving the hospital, when he was fully convalesced. The third patient was operated on five months ago. A couple of weeks after her discharge from the hospital, a small bleeding growth appeared in the vaginal scar. Suspecting a recurrence Vineberg excised it but the pathologist could not detect any evidence of chorioepithelioma in it. She is in excellent health, and the vaginal vault is smooth and perfectly healed.

13. **Treatment of Pelvic Inflammation.**—It is emphasized by Polak that curettage, douches and examinations during the acute stage of puerperal infection, break down natural barriers and open avenues for further dissemination of sepsis to the myometrium, parametrium and adjacent tissues, and that the danger from curettage increases as the period of pregnancy advances. The endometrium should never be curetted in acute streptococci infection, neither should the placental site ever be curetted. Instrumental evacuation of the uterus should be limited to pregnancy of eight weeks or under: digital exploration and digital curettage is the most rational method of learning the contents of the uterus. After the uterus is once thoroughly emptied, the pelvis should be left absolutely alone, except for postural drainage, and we should make every effort to support the patient and increase her natural blood resistance. If the blood-stream is sterile, and the blood shows a leukocytic resistance to the infection by a relative white cell increase, the prognosis is favorable, it matters not what form of cocci are found within the uterine cavity. Polak says, never disturb a local exudative focus postpartum, as long as the patient shows signs of improvement, unless there is definite evidence of a localized collection of pus, this should be opened by extra-peritoneal incision. Exudative pelvic peritonitis may be considered as a sequel of untreated or badly treated endometritis.

Thrombophlebitis is a conservative process on the part of nature, and manipulation or examination tends to break off infected emboli, and disseminate the infection to the remote parts of the body. Nature is competent in the majority of cases to localize and circumscribe the infection. Enormous pelvic and abdominal exudates may disappear without operation, and in time enlarged ovaries, tubes, etc., assume their proper size and function, and as long as the patient's general condition improves, no surgery is advisable. All operations are attended with less risk after the acute stage of the infection has subsided, and an exact diagnosis is more easily made at this time; and finally, vaccines have a definite field and are valuable adjuncts to the therapeutics of puerperal infection.

Military Surgeon, Washington

September

16 Asiatic Cholera. J. R. Hurley, Washington, D. C.
17 San Diego Maneuver Camp. C. W. Decker, San Diego, Cal.
18 Galveston Maneuver Camp. J. H. Ford, U. S. A.
19 *Lime Salts for Troops. W. T. de Niedman, U. S. A.
20 Treatment of Malaria by Salvarsan. M. A. Reasoner, U. S. A.
21 Dislocation of Malar Bone. R. P. O'Connor, U. S. A.
22 Chronic Interstitial Nephritis with Very Obscure Symptoms. G. B. Tuttle, U. S. A.
23 Miscellaneous Notes. R. C. Matson, Portland, Ore., and M. A. Reasoner, U. S. A.
24 Experiments Undertaken to Test Efficacy of Ipecac Treatment of Dysentery. E. B. Vedder, U. S. A.

19. **Lime Salts for Troops.**—The use of calcium lactate and permanganate is held by de Niedman to be particularly desirable during active campaigning under circumstances where the soldiers have to use drinking-water from questionable sources. He is satisfied that calcium permanganate added in definite quantities to drinking-water would act as a prophylactic and would prevent contracting dysentery and other enteric fevers, while calcium lactate, taken with food, would replace the deficiencies of lime salts in the various articles of the diet, thereby minimizing the tendency to the numerous inflammatory intestinal troubles often met and which cannot be rightly traced to careless preparation of food, or to drinking-water. It is his opinion that the routine use of lime salts under certain conditions would be of great benefit to troops serving for a prolonged period in the field or in the tropics.

Mississippi Medical Monthly, Vicksburg

September

25 *Treatment of Appendicitis by Hypodermic Injection of Colon Bacteria. H. M. Folkes, Biloxi.
26 Drops in Syphilis. H. L. Walker, Hot Springs, Ark.
27 Acute Enteritis. W. H. Frizell, Brookhaven.
28 Intestinal Obstruction Due to Intussusception and Volvulus. J. C. Walker, Houlka.
29 Medical Treatment of Appendicitis. J. W. Jordan, Lexington.

25. **Treatment of Appendicitis.**—Thinking that possibly the infection in a case of appendicitis was due to colon bacilli, and not being permitted to operate, Folkes concluded to try an injection of colon bacteria which he did by giving 200,000,000. Within twenty-four hours the temperature had gone to normal, pulse 102, facial expression natural, patient comfortable. The tumor, *pari passu*, became smaller and smaller and ten days after the injection had entirely disappeared. The patient is as well as ever.

Washington Medical Annals

September

30 Iodin as Antiseptic, with Special Reference to Sterilization of Skin. I. S. Stone, Washington, D. C.
31 Suspensions of Salvarsan in Oil. H. H. Hazen, Washington, D. C.
32 Borderland Between Internal Medicine and Psychiatry. W. A. White, Washington, D. C.

Journal of Kansas Medical Society, Kansas City

September

33 Vaccines and Vaccine Therapy. C. J. McGee and P. B. Matz, U. S. A.
34 Complete Atresia of Vagina and Case Complicated by Hematotrachelos, Rudimentary Uterus, Operation. R. S. Harvey, Newton.
35 One Hundred and Thirty-Five Cases of Obstetrics in Country Practice. F. A. Carmichael, Goodland.
36 *Case of Automatic Shedding of Gall-Bladder. H. G. Welsh, Hutchison.

36. **Automatic Shedding of Gall-Bladder.**—On the basis of a diagnosis of appendicitis Welsh opened the abdomen in the region of the appendix and found a good-sized abscess well walled off. The patient was in such an extreme condition that he decided not to remove the appendix as it appeared to be well covered up with adhesions, so he packed the abscess cavity with gauze and hurried the patient to bed, and ordered normal salt solution per rectum. The patient had only a slight rise in temperature at the time he entered the hospital and this did not change much for several days, running from ½ to 1½ degrees above normal. The patient began to improve, however, the gauze drain being removed on the fourth day, and replaced with smaller gauze packing each day thereafter. On the fifth or sixth day a fecal fistula developed and bowel contents discharged freely for a few days and then healed. About the fourteenth day after operation, a black object appeared in the wound at the morning dressing and looked very much as though it was a portion of gangrenous gut. The patient was improving daily, was much stronger and Welsh did not think the substance was bowel, although it looked and felt like it. When the gauze was pulled out of the wound the mass came out with it, and at first sight it looked like a piece of gangrenous gut about 5 inches long by 2 inches in diameter, with an opening at the smaller end, and about half full of a semi-solid or mushy contents. It was the whole gall-bladder. Two or three days after the shedding of the gall-bladder, bile began to discharge freely through the wound and did so for several days, and then ceased and the wound gradually healed. No gall-stones were found at the operation, and none passed through the wound afterward.

Maryland Medical Journal, Baltimore

September

37 Prevention of Inebriety. G. M. Linthicum, Baltimore.
38 Laboratories and Medicine. H. W. Stoner, Baltimore.

Journal of Medical Research, Boston

September

39 Vaccination of Cattle Against Tuberculosis. T. Smith, Boston.
40 *Organic Matter in Expired Breath. M. J. Rosenau and H. L. Amoss, Boston.
41 *Study of Primary Intimal Arteritis of Syphilitic Origin. F. B. Gurd and H. W. Wade, New Orleans.
42 *Rapid Isolation of Typhoid, Paratyphoid and Dysentery Bacilli. A. I. Kendall and A. A. Day, Boston.
43 [illegible] bility of Slow Sand Filters to Bacil- [illegible] Beasley, Boston.
44 * [illegible] inciples Relating to Activity of Bac- [illegible] Tract; Their Relation to Therapeutics. A. I. Kendall, Boston.
45 *Tuberculosis Among Ground Squirrels (Citellus Beecheyi, Richardson). G. W. McCoy and C. W. Chapin, San Francisco.
46 Precipitation [illegible] Strong, Boston.
47 Twenty-Two [illegible] ld Rats. P. G. Woolley an[illegible]
48 Isolation of [illegible] and Feces with Description of New Double Sugar Tube Medium. F. F. Russell, Washington, D. C.
49 *Isolation of Bacillus Typhosus from Butter. D. H. Bergey, Philadelphia.
50 *Peptid-Splitting Enzyme in Woman's Milk. L. M. Warfield, Milwaukee, Wis.
51 Carcinoma Involving Entire Kidney. L. S. Milne.
52 Thrombo-Angeitis Obliterans. H. Brooks, New York.
53 Value of "Hormone" Theory of Causation of New Growth. I. Levin and M. J. Sittenfield, New York.

40. **Organic Matter in Expired Breath.**—Through the reaction of anaphylaxis the presence of organic matter was demonstrated in the expired breath by Rosenau and Amoss. In brief the method consisted in condensing moisture from the expired breath of man and injecting the liquid so obtained into guinea-pigs. After a suitable interval (at least two weeks) the guinea-pigs were injected with normal human blood-serum. Ninety-nine guinea-pigs were thus tested in twenty-five different experiments; of the ninety-nine, twenty-six gave definite symptoms of anaphylaxis; this does not include the animals showing suggestive or mild symptoms; in four the reaction was so severe that death ensued from anaphylactic shock. The expired breath of eight persons was tested; of these five gave positive reactions; on each of the remaining three, only one experiment was made. This organic matter must, according to the interpretations of our knowledge of anaphylaxis in the guinea-pig, be protein in nature. Guinea-pigs may be sensitized only with protein substances higher in the scale (that is, more complex) than the peptones. Further, this protein substance is specific and for the present it is assumed to come from the blood. The indications are that this organic matter is probably present in variable amounts, although the reaction is a qualitative and not a quantitative test.

The logical conclusion at which the authors arrive is that protein substances may be volatile. It seems unlikely that such a complex molecule should possess the power of passing into the air in a gaseous form. The volatility, however, now in question may resemble that solubility which deals with particles in suspension in a physico-chemical state (colloidal suspension). The protein may simply be carried over in "solution" in the watery vapor. The fact that organic matter is present in the expired breath does not mean that these substances are poisonous. It is evident, however, that the air contains many substances which we cannot at present discern, some of which may have an important bearing on health. Thus it is well known that most of the cases of sudden death following the first injection of horse-serum (diphtheria antitoxin) occur in adults. Children rarely give a severe immediate reaction at the first injection. How the adults become sensitized has always been a mystery. It may now be assumed that some susceptible persons may absorb, through the lungs, enough horse protein, from close association with horses to become sensitized. The fact that the expired breath contains definite amounts of specific organic substances will also have an immediate bearing on the problems of ventilation and the effects of vitiated air.

41. **Primary Intimal Arteritis.**—The authors maintain that total occlusion of vessels having a complete anatomic structure does result from the simple proliferation of the intima. Syphilis must be recognized as one of the factors potent to induce this lesion. Although nourishment for the inner layers of the media may be derived from the circulating blood in the lumen of the vessel, their preparations showed that such a method of nutrition is by no means necessary. In occlusion taking place in this manner, endothelial proliferation is primary, this being followed by subendothelial fibrous tissue hyperplasia. The vascularization of this proliferated tissue takes place by the growth inward of vessels from the adventitia. Necrosis in syphilis results both by the formation of tubercle-like nodules by the proliferation of cells with breaking down in the center, and also as the result of obliteration of vessels as the result of an intimal proliferation.

42. **Rapid Isolation of Bacilli.**—The modified Endomedium used by Kendall and Day contains 15 gm. of agar per liter instead of 40 gm. The colonies developing in 15 gm. agar are much larger in eighteen hours than those similarly grown in 40 gm. agar. The colonies are also more distinct. The reaction of the agar is made just alkaline to litmus, instead of being strongly alkaline to it; consequently those bacteria-forming acid bring about their characteristic changes very promptly because there is less alkali to be neutralized before the acid can assert itself. After eighteen hours' incubation on the medium modified as above, suspicious colonies are removed entire to small tubes containing 1 c.c. of sterile sugar-free broth, which has been kept at 37 C. previous to use and incubated in them at 37 C. for two hours. While the incubation is taking place, the sera are diluted ready for use. The cultures are then agglutinated with appropriate sera and watched for two hours. At the end of that time the results are reported. The whole procedure as outlined requires about twenty hours.

44. **Activity of Bacteria in Intestinal Tract.**—The cases studied on the Boston Floating Hospital during the summer of 1910 numbered thirty-nine. Nineteen patients died and twenty survived. Of those that died eight received *no sugar*; they were among the earliest studied, and it was from a study of the flora of this group that the ideas employed in the attempt to aid the others originated. Of those receiving sugar, and which died subsequently, two were on a modified milk diet previous to the use of lactose. One reacted very well both clinically and culturally to the sugar treatment, convalesced, and was doing very well on a milk modification. Finally she contracted a severe attack of acute bronchitis and had not strength enough to rally. Two patients died within three days of admission, too early to get the results of the lactose treatment, for the lactose was not given as a rule until after two or three days' starvation on sterile water. One patient was placed on lactose for eleven days, did very well, then on a milk mixture five days, still with improvement, then on Eiweiss milk. She died very shortly after. Two cases were pure Shiga bacillus infections, and terminated fatally rather promptly. This is the usual rule with pure Shiga infections, when the patients are seen as late in the disease as were many of those at the hospital last summer. Of the remainder one survived nine days on lactose, then died. The patient did not show the expected change in flora, and the question arises, were there vestiges of the fermentative flora to encourage? Obviously, if there were no fermentative organisms to start the new flora it could not develop. One patient died after twenty days' illness on the boat: six days of lactose, two of sterile water, then ten of lactose. The first two days were on sterile water. The last patient was placed on lactose solution for fourteen days, then on a milk mixture. She reacted very well bacterially, and no definite explanation of the cause of death can be advanced (syphilis?).

45. **Tuberculosis Among Ground Squirrels.**—Five cases of natural tubercle infection in ground squirrels have been observed. The gross pathology in these animals was as follows: Two had lesions of the lymph-glands alone, one of the lungs alone, one of the lungs and the omentum, and one of the liver alone. As compared with a human strain of the same age and number of generations, the growth on artificial media was far less luxuriant than that of the culture derived from man. The virulence of the squirrel cultures, judged by their effect on rabbits, agrees with that of the bovine type of *B. tuberculosis*.

49. Isolation of Bacillus Typhosus from Butter.—Altogether, eight samples of butter obtained from the institution were studied by Bergey and typhoid bacilli were found in one of the samples. The special agar media that seemed to be most helpful, in that it was possible to pick out the colonies of *B. typhosus* from amongst the colonies of other bacteria in the butter, were the Drigalski-Conradi agar and the malachite green agar. No typhoid organisms were recovered from the plates made with the endomedium. Bergey thinks that this result is probably due to the fact that the endomedium may not have been properly prepared, though four different batches of it were tried. These special agar media are rather difficult to make up, as the original descriptions are somewhat involved and the process is rather long. From the results obtained it is evident that these special media are of great value, under certain circumstances, for the recovery of *B. typhosus* from infected food materials. After the sample of butter which contained the typhoid bacilli had been in the ice-chest for several weeks it was impossible to isolate any additional typhoid bacilli from it. Whether this was due to the fact that the organisms had all died out or whether they were not uniformly distributed Bergey does not state.

50. Peptid-Splitting Enzyme in Woman's Milk.—Warfield found tryptophan present in the mixture of human milk and glycyltryptophan. This ferment is destroyed by heating the milk to 75-80 C. or above. When the specimen of milk is rendered faintly acid by the addition of either HNO_3 or HCl, there is no splitting of glycyltryptophan. Controls of untreated, normal milk and part of specimen treated, were always incubated for the same length of time. The controls were always positive for tryptophan.

Interstate Medical Journal, St. Louis

September

54 Treatment of Bacillary Dysentery. F. S. Meara, New York.
55 Case of Hemochromatosis with Diabetes. W. P. Elmer, St. Louis.
56 Some General Considerations in Regard to Right Hypochondriac Pain. J. D. Heard, Pittsburgh.
57 *Fallacy of Warmed Ether Vapor. M. G. Seelig, St. Louis.
58 Inflammatory Tumors Producing Intestinal Obstruction. A. Primrose, Toronto.
59 An Estimate of Freud's Theory of Neuroses, Its Value to the Neurologist. S. I. Schwab, St. Louis.

57. Warmed Ether Vapor.—Seelig says we may rest content with the simple fact that a warmed vapor will not stay warmed unless it is held under pressure. We have been led astray in our reasoning by the sight of ice crystals on the ether mask, or frost on the nitrous oxid gas cylinder. Indeed, we have been led so far astray as to lose sight of one of the fundamental facts in the administration of anesthetics, namely, when ether is administered by the drop method, its rapid evaporation robs the surrounding atmosphere of latent heat, thus perceptibly cooling it. This cooled air can take up only a moderate amount of ether vapor by reason of the fact that it is cooled, and thus we are furnished with a safeguard against oversaturating the patient with ether. This physical fact it is, which has contributed so much towards making the open method of administering ether so safe and therefore so popular. If we bear in mind the rapidity with which vapors part with heat, we shall probably not concern ourselves much with securing special warming apparatus.

Journal of Michigan State Medical Society, Battle Creek

September

60 Obstetrics in the Home. C. E. Boys, Kalamazoo.
61 Some Pertinent Facts Concerning State Sanatorium. E. B. Pierce, Howell, Mich.
62 Physician as Financier? W. A. Griffin, Deckerville, Mich.
63 Laryngeal Complications of Tuberculosis. N. P. Levin, Detroit, Mich.
64 Pelvic Tumors in Female. W. P. Manton, Detroit, Mich.
65 Fractures. C. H. Sample, Saginaw, Mich.

Albany Medical Annals, New York

September

66 *Anatomy and Pathogeny of Agenesia of Corpus Callosum. L. Archambault, Albany, N. Y.

66. Agenesia of Corpus Callosum.—A very complete study was made by Archambault of the clinical history and postmortem findings of a case of agenesia of the corpus callosum. He says that in cases of so-called agenesia of the corpus callosum, we have to do merely with an abscess of the callosal commissure proper. In a considerable number of cases, fetal hydrocephalus is the underlying cause of this anomaly. This lesion may act either by destroying a large part of the periventricular callosal layer, or by determining ventricular symphysis which then interferes mechanically with the development of the callosal commissure. The occipito-frontal fasciculus simply represents, as Sachs originally maintained, a heterotopy of the corpus callosum. It does not exist in the normal cerebrum. The fornix is formed not only by fibers derived from the gyrus hippocampi but also by fibers which originate in the gyrus fornicatus and reach it by traversing the corpus callosum. The internal sagittal layer of the frontoparietal lobe, the reticular zone of Sachs, represents the corona radiata of the gyrus fornicatus or first limbic convolution. The anterior commissure probably enters into the constitution of the temporal segment of the tapetum. Aside from this possible element, the tapetum is formed exclusively by the fibers of the corpus callosum.

St. Paul Medical Journal

September

67 Bursæ and Exostosis (Spurs) of Os Calcis: Report of Cases. A. R. Colvin, St. Paul.
68 Bonds vs. Mortgages as Investments for Physicians. E. White, St. Paul.
69 Farm Mortgage as Investment for Physicians. W. Wheelock, St. Paul.

American Journal of Diseases of Children, Chicago

September

70 *Case of Scaphocephalus with Retinal Changes. A. W. Fairbanks, Boston.
71 Muscular Hypertrophy of Pylorus in Infancy. H. L. K. Shaw and T. Ordway, Albany, N. Y.
72 *Albumin-Milk in Infant Feeding. C. G. Grulee, Chicago.
73 Protein Metabolism in Infants and Children. H. Schwarz, New York.
74 *Case of Infection of New-Born. L. Taylor-Jones, Washington, D. C.

70. Scaphocephalus with Retinal Changes.—The symptoms in the case cited by Fairbanks strongly point to an intracranial tumor. The classic general symptoms presenting themselves in a strikingly typical manner, headache, vomiting, optic neuritis and choked disks with retinal hemorrhage. The symptoms were so intense that the child was twice admitted to the hospital with a view to using a radical palliative decompression operation. The abnormal shape of the head was thought to be a congenital deformity, without connection with the active and serious clinical phenomena. Eye examination showed 2 mm. swelling of the disk and beginning signs of organization. It was thought that there was slightly less coordination and power in the right upper extremity than in the left, but this was always questionable. No other signs were present. His gait, even with his eyes closed, was excellent. From this time to the time of making this report (six months), he was perfectly well subjectively, and presented no abnormality, except the cranial deformity and the changes in the retina.

72. Albumin-Milk in Infant Feeding.—Grulee's report consists of thirty cases, of which twenty-five are of nutritional disturbances and five of parenteral affections. Of these cases, five were dyspepsias, with four recoveries and one failure; seventeen were decompositions, with two failures and three deaths. Of those classified as failures, both were cases which could not be controlled. Of the deaths, one was the first infant on which the albumin-milk was used and the albumin-milk period was preceded by a long period of decline; one death resulted from erysipelas. In one case of intoxication the infant made a beautiful recovery. In this case a modification of the albumin-milk was used. Instead of suspending the curds in the buttermilk, barley-water was used, and this in turn gradually replaced, 1 ounce or 2 ounces at a time, with buttermilk. In this case the above procedure did good service. One of the cases in this series was an infant a few days old, of comparatively good health, which thrived well on the food. Another case, aside from a rather severe rickets and furunculosis of the scalp, showed no disturbance and yet went steadily down hill and died a month or six weeks after leaving the hospital.

Of the five cases of parenteral affections, three infants died, one was but slightly improved, while one made an excellent recovery. One of those which died had a very severe anemia pseudoleukemica infantum, one was afflicted with subcutaneous abscesses which were very bad at the start and cleared up entirely for some days, then began again and during the second attack the child died. The third was a case of intestinal tuberculosis. The infant which improved only a little was one with syphilitic hydrocephalus; the other case was an ordinary case of congenital syphilis.

In the twenty-five instances of nutritional disorder there were eighteen recoveries, three failures and four deaths. Of the deaths, two only were uncomplicated nutritional disorders. Of the failures, no infant was on the albumin-milk longer than twelve days, one being taken off the food because of a rather alarming loss of weight in the first week. In no mild case in which it was thought that the infant would thrive on the usual milk mixtures was the albumin-milk given. This is shown by the fact that fifteen of the twenty-five cases were in infants 4 months or under. Quite interesting was the rapid fall and rise of the weight-curve. This occurred usually in more severe cases and often a drop of 4 to 5 ounces in twenty-four hours would be registered, with a quick return to a point above that before the drop.

74. **Infection of the New-Born.**—This baby, which had been apparently perfectly healthy for ten days of its life, died when 12 days old, of a streptococcus infection whose course was by the way of the umbilicus through the left hypogastric artery. At no time was there any sign other than perfect health at the navel. Taylor-Jones could not say when the infection occurred, but it would seem that the most reasonable presumption would put it at the time of, or soon after, the separation of the cord on the fourth day. The physiologic thrombus of the left hypogastric would probably not be broken down by sepsis for several days, and several more days might be required to have the circulation of the organisms in the blood show evidence by elevation of temperature and external signs. Taylor-Jones surmises that had it taken place at the time of birth, infection would probably have manifested itself several days earlier because of the organisms passing directly into the blood-current, before formation of the thrombus.

Journal of Minnesota State Medical Association and Northwestern Lancet, Minneapolis

September 1

75 Visit to Some Hospitals and Surgical Clinics of France. W. J. Mayo, Rochester, Minn.
76 *Early Symptoms and Diagnosis of Pulmonary Tuberculosis. J. L. Anderson, Powers Lake, N. Dak.
77 Direct Electrical Current in Scientific Medicine. B. T. Green, Brookings.
78 Physical and Medical Supervision of Children. J. W. Robertson, Litchfield, Minn.

76. Abstracted in The Journal, July 8, 1911, p. 159.

Boston Medical and Surgical Journal

September 7

79 Suits for Alleged Malpractice. G. W. Gay, Boston.
80 *Some Comments on Probable Direction of Future Progress in Treatment of Chronic Joint Diseases. H. W. Marshall, Boston.
81 *Humidity and Health. P. W. Goldsbury, Warwick, Mass.
82 Case of Pellagra. C. H. Dean, Northampton, Mass.

September 14

83 Thoracic Surgery. J. G. Mumford, Boston.
84 Treatment of Empyema. F. B. Lund, Boston.
85 *Bronchiectasis and Abscess of Lung. S. Robinson, Boston.
86 Chest Traumata. F. T. Murphy, Boston.
87 Use of Esophagoscope in Esophageal Surgery. H. P. Mosher, Boston.
88 Value of Roentgen Rays in Diagnosis and Treatment of Fractures; Moral and Legal Obligations. H. A. Lothrop, Boston.
89 Suits for Alleged Malpractice. G. W. Gay, Boston.

80. **Progress in Treatment of Chronic Joint Diseases.**—Reasons and data are given by Marshall to show how greater accuracy in diagnosis; greater skill in applying remedies accurately according to physiologic needs of the tissues; discoveries of new methods of treatment through development of many medical researches; improvements in surgical knowledge and skill; and more keen appreciation of the advantages of preventive measures will all favorably influence progress in treatment of chronic arthritis. Simultaneously with increase in efficiency of such treatments there will develop greater confidence among patients with regard to medical understanding of joint diseases, and this of itself will be an additional advantage, if existing practices that are so fatal to satisfactory results can be minimized, namely, the habit which patients have of wandering from one physician to another, trying indiscriminately many cures until hope of recovery has passed and their joints are worn out and damaged beyond repair while attempting to restore their normal function.

81. **Humidity and Health.**—The beneficence of moisture is emphasized by Goldsbury. He says that the problem of constructing buildings in such a way as to keep the interior up to a fair degree of humidity is a large one. So far engineers have made little practical progress toward its solution. Their ingenuity has been taxed to improve the moisture in large public buildings. The devices for this have so far proved too expensive for private dwellings, hotels, offices or schoolhouses. Another difficulty has been to arouse public opinion on the subject, or to convince of its importance. Americans complain of the drafty, poorly heated buildings abroad, but American houses are both too nearly air-tight and too much heated for ideal humidity. Too little of the moist fresh air enters; and this, under the rising temperature, has its relative humidity greatly lowered. The situation calls for some special measures.

Clothing and covering of the body interferes more or less with an equal shading of humidity and evaporation and circulation of the air directly over the skin. Advantage may be taken of this fact. If the skin is allowed to enjoy longer periods of freedom from clothing upon retiring or rising, or when they are being changed, the body will be bathed more equally by air of a like degree of humidity and should benefit from such baths. Clothing which permits freer circulation of air is a step in this direction, but this whole subject can be reserved to a later discussion. If one must live much indoors he may improve the temperature of his rooms by various devices, such as keeping growing plants and setting about porous dishes, as flower pots full of water. If such receptacles are set near electric fans the stirring of the air facilitates evaporation. Some housekeepers have even placed such pots within the radiator.

There are some objections to the use of plants, such as the amount of care they require, the space they occupy and the physiologic effects of their odors and gaseous exhalations. Those who love plants, however, may get encouragement from the fact that the beauty and fragrance are joined with a humbler and inconspicuous but very much needed service. Porous vessels, too, demand some care. If they are not covered dust will gather within them, evaporation will be retarded and the water itself will grow foul. The vessels should be covered or closed and the water changed occasionally to keep all fresh. As with plants, the esthetic sense may be satisfied along with the useful. Pottery may be formed to furnish an elaborate amount of evaporating surface and at the same time artistically designed.

Goldsbury says that there is nothing for humidity like the out-of-doors. Even though the humidity may range from that of parched Arizona to that of the English Channel, it is so admirably adjusted to the environment on nature's gigantic scale, and so likely under the vast majority of conditions to be superior to anything that can be produced artificially, and it is so bound up with advantages of other sorts, that the Great Open must be the common refuge, and to the natural we must turn in our search after the ideal. Conditions indoors may and must be improved; conditions outdoors wait to be enjoyed.

85. **Bronchiectasis and Abscess of Lung.**—From sixteen cases of abscess which he has seen, eight of which he has operated on, Robinson has come to prefer the responsibility of finding the abscess rather than risk operation at that late stage when the patient's resistance has been lowered during prolonged observation and repeated negative explorations. Continued expectant treatment may result in a fetid empyema. Drainage of such empyemata in the presence of abscess is attended with high mortality. The operative mortality of uncomplicated acute abscess should be less than 8 per cent. in cases which have not been delayed by lack of diagnosis or prolonged observation. He says that exploration for deep

abscess, in the complete absence of adhesions, is more safely performed under differential pressure, the use of which, to say the least, increases confidence. Furthermore, many recent experimental investigations have bettered the technic of opening and closing the chest, and a negative exploration should be devoid of complications.

Operative infection of normal pleura, and postoperative pneumothorax should, nevertheless, be avoided in every possible instance. A careful search before and during operation for an area where adhesions are present will prevent the opening of the free plural cavity. In his six cases of acute abscess, Robinson has established drainage with no mortality.

Lancet-Clinic, Cincinnati

September 16

90 Gastric Ulcer. W. D. Haines, Cincinnati.
91 Early Diagnosis in Tuberculosis. C. A. Shepard, Los Angeles, Cal.
92 Reminiscences of Early Days of Medical College of Ohio. A. H. Rowan, Santa Ana, Cal.

Medical Record, New York

September 16

93 Tetany and Spasmophile Tendency in Infancy and Childhood. H. Koplik, New York.
94 Conservation of Sight. J. W. Jervey, Greenville, S. C.
95 *New Method of Vaccine Treatment and Prevention of Sepsis. C. H. Duncan, New York.
96 Some Common Errors in Treatment of Diabetes. H. Wakefield, New York.
97 Three Phases of Ectopic Gestation. J. M. Keyes, New York.
98 O'Dwyer Forcible Respiration Apparatus for Children. J. O'Dwyer, New York.

95. **Vaccine Treatment and Prevention of Sepsis.**—The cure employed by Duncan consists in giving the patient crude pus from his own wound by the mouth. The prevention is effected by putting the discharge from a fresh wound in the patient's own mouth. To get some idea of the possibilities of this method of curing and preventing infections, he directs attention to the dog and cat and other animals that lick and cure their wounds. He says this is the oldest method of wound treatment the world has known, for animals have always licked and cured their own wounds. The only place where, as a rule, a cat or dog has bad infections is on the head, which it is impossible for them to lick. If the pus from their head wounds is placed in the mouth they will recover from their head wounds as they do from wounds which they can lick. In licking their wounds, they place the autogenous vaccine in healthy tissues away from the seat of disease, and develop specific antibodies in the serum. This is Nature's method of curing an infection. It is the simplest and the best method of curing infection.

New York Medical Journal

September 16

99 Fifty Cases of Syphilis Treated with Salvarsan, with Special Reference to Clinical Result and Wassermann Reaction. A. L. Wolbarst, New York.
100 Gastric Contents in Gastroptosis. T. R. Brown, Baltimore.
101 Duodenal Ulcer. J. P. C. Griffith, Philadelphia..
102 The Hospital Ship *Solace*. M. F. Gates, U. S. N.
103 Treatment of Acute Ailments in Persons Addicted to Habitual Use of Narcotic Drugs. G. E. Pettey, Memphis, Tenn.
104 Infection: A Contest Between Host and Invader. D. H. Bergey, Philadelphia.
105 Swelling of Liver and Spleen with High Continuous Fever. K. L. Elsner, Brooklyn, N. Y.
106 Iritis Plastica Adherens. A. M. MacWhinnie, Seattle, Wash.
107 Scarlet Fever Complicating Pregnancy, Labor and Puerperium. S. Herzstein, New York.

Kentucky Medical Journal, Bowling Green

July 15

108 Syphilis of Stomach. J. J. Moren, Louisville.
109 Serum Treatment of Cerebrospinal Meningitis. J. A. Flexner, Louisville.
110 Injuries At and About the Ankle. C. G. Forsee, Louisville.
111 Shock. F. T. Fort, Louisville.
112 Successful Strangulation by Cord of
Meckel's Louisville.
113 Cases and I. Abell, Louisville.
114 Tuberculosis of Knee Joint; Exhibition of Specimen. E. S. Allen, Louisville.
115 Par Ovarian Cyst; Exhibition of Specimen. A. M. Vance, Louisville.
116 Gastroduodenostomy in Acute Perforated Gastric Ulcer. H. N. Leavell, Louisville.
117 Series of Obstetrical Cases. E. Speidel, Louisville.
118 Uterine Hydatids Followed by Full-Term Pregnancy and Diagnosis of Chorio-Epithelioma in Puerperium. E. Speidel, Louisville.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

September 2

1 *Mode of Transmission of Leprosy. T. L. Sandes.
2 *Transmission of Leprosy. E. C. Long.
3 Ophthalmo Reaction of Calmette in Early Diagnosis of Phthisis. A. S. Hosford.
4 Nasal Obstruction and Its Consequences in School Children. C. E. Reynolds.
5 *Diagnosis, Prognosis and Treatment of Tuberculous Peritonitis. H. D. Rolleston.
6 *Idem. G. A. Wright.
7 *General Edema Following Gastro-Enteritis in Children. W. E. Hume.
8 Infantilism Associated with Chronic Interstitial Nephritis. L. Parsons.
9 Chronic Pulmonary Affections of Childhood. S. West.
10 *Disturbances Arising from Milk-Feeding in Children After First Year. H. Vogt.
11 *Etiology of Nevi: Nerve Influence in Their Causation. D. C. L. Fitzwilliams.
12 Epidemiology of Poliomyelitis. F. E. Batten.
13 Oxypathy and Uric Acid. W. Stoeltzner.
14 *A Thousand Consecutive Cases of Scoliosis. P. B. Roth.
15 Indications for Employment of Spinal Anesthesia in Abdominal Surgery. H. T. Gray.
16 *Harelip: Modifications and Extensions of Owen's Operation. F. W. Goyder.
17 *Treatment and Prevention of Measles. R. Milne.

1. See The Journal, Sept. 9, 1911, (12) 930.

2. **Transmission of Leprosy.**—The possibility of the bacillus being carried by vermin occurred to Long. With a view to testing this hypothesis, bed-bugs obtained from huts which had never been inhabited by lepers were caused to bite lepers in the neighborhood of leprous nodules on the face. The bugs were then killed and the alimentary tract and its contents examined. In every bug that bit freely a bacillus was found which in shape, size and staining reactions is similar to the *Bacillus lepræ*. Control bugs from the same hut gave in every instance a negative result. The experiments are still in progress.

5. **Tuberculous Peritonitis.**—Statistics on tuberculous peritonitis in children quoted by Rolleston are the following: Faludi has drawn up tables showing the percentages of cures in parallel series of cases of tuberculous peritonitis in children operated on and not operated on. The authors he quotes are Cassel, Monti, Pic, Schmitz, Schramm and Sutherland, who all give parallel series of cases operated on and not operated on. The divergence in these statistics is considerable. Schramm found 80 per cent. of cures among the operated patients and 64 per cent. among the non-operated; Pic observed recovery in 74 per cent. of the operated patients and in 5 per cent. only of the nonoperated; Wutherland observed recovery in 50 per cent. of the operated patients and in 81 per cent. of the nonoperated. By adding up all the operated patients we get eighty-eight cures, or 70.4 per cent., in 125 cases, as contrasted with fifty-one cures, or 33 per cent., in 156 patients not operated on. The question of operation on ascitic patients may be fairly summed up in the statement that it should be tried after hygienic and medical treatment has been given a fair trial for a month or so without any definite benefit. Simple paracentesis is not often necessary and is seldom practiced. After removal of some of the fluid, injections of various kinds through a cannula have been employed; thus sterilized air, oxygen (Schulze), isotonic salt solution, epinephrin (adrenalin) (Wynter) have been reported to give good results. The injection of camphorated naphthol is a dangerous procedure (Guinard). Rolleston has no experience of any of these methods.

6. **Idem.**—As to the ultimate results of laparotomy in tuberculous peritonitis and its value as a means of treatment, Wright says that probably not much more than half the patients would live to grow up, for of those who recover for a time a large proportion die of tuberculosis in some form within a few years, though the immediate operative mortality is of course very small. There is no hard-and-fast line between ascitic and plastic cases, either as a matter of morbid anatomy or of operative treatment, or of mortality. But operation is simple in cases in which there is much fluid, and may

be impossible in obliterative cases. Tuberculous mesenteric glands may be safely removed, and in some cases certainly should be removed. The rôle of surgery in tuberculous peritonitis is rather to remove secondary troubles, such as obstruction, and to get rid of noxious collections of fluid and local foci of tubercle, rather than to play any great part in the prevention or cure of the disease as a whole.

7. *Edema Following Gastro-Enteritis in Children.*—Hume's attention was first turned to a group of cases of general edema following gastro-enteritis in 1908, when he had four patients under his care in the children's ward of the Royal Victoria Infirmary at the same time. He could not find any evidence of heart or kidney disease in any of these. Since November, 1908, he has seen nine similar cases; three of these have been under his care at the Royal Victoria Infirmary and six under the care of another. Hume has failed to discover that there is any difference between the salt exchange in cases suffering from this variety of edema and that which takes place in perfectly normal children. He does not think that the theory of salt retention wholly explains the condition any more than it does in all cases of edema in Bright's disease. From the fact that the vascular conditions were *improved by the injection of epinephrin, that the children* improved more rapidly under its administration than without it, and from the fact that in these two cases there was an abnormal degree of fibrosis in the medulla of the suprarenal gland, Hume suggests that attention in future be paid to these glands when opportunities of examining them occur. Finally, he refers to the fact that toxins are developed in the gastro-intestinal tract which cause degeneration and fibrosis of the suprarenal medulla, and that, either as the result of the absence of suprarenal secretion or from the direct action of the toxins on the capillary cells, the latter become more pervious to the outlet of fluid.

10. **Milk Feeding in Children After First Year.**—Vogt cites a number of instances to prove that many children may be injured by a liberal milk diet. The long-retained dogmatic belief of the medical profession that milk is not only the ideal food for infants, but for every age and every ailment, must be abandoned. The requirements which the food of the infant and that of the older child have to meet are quite different. The infant needs for the construction of his rapidly growing organism relatively large quantities of fluid, as well as of solid matter, to be retained as living substance. The older child and the adult, on the contrary, require above all, a supply of material which will furnish the amount of energy necessary to provide for the maintenance of the temperature of the body and the production of muscular work, both of which play only a minor part in the case of the infant. Again, milk lacks certain constituents which must be present in the food of adults and older children. It is extremely poor in iron, it is entirely lacking in purin bases, and last, but not least, it is for most people unappetizing. This last constitutes a very real defect for individuals who have passed their first year.

11. **Etiology of Nevi.**—From figures yielded by his investigation Fitzwilliams believes that females are affected more frequently than males, that nevi are almost always present at birth, and only comparatively few appear at a later date, spider marks and deeply seated nevi being the chief exceptions to this rule; that nevi most usually start on the surface, and less frequently in the deeper structures; that their extension and growth is intimately connected with the nerve supply of the part.

14. **Scoliosis.**—From a study of these 1,000 cases the following points are emphasized by Roth: 1. Scoliosis is a disease of females—843 females, 157 males. 2. Scoliosis is a disease of adolescence—86 per cent. between 6 and 20 years. *3. The frequent occurrence of scoliosis in members of the* same family points to hereditary transmission. 4. The bad position assumed in writing, a delicate constitution and too rapid growth are largely responsible for very many cases. 5. Difference in the length of the legs is not a common cause of scoliosis. 6. Pain is a frequent symptom. 7. Flat-foot is a very frequent complication. 8. Attention to dress before any treatment is absolutely essential. 9. Treatment should never be commenced until a record of the osseous deformity has been made. 10. Treatment by "posture and exercise" entirely arrests the increase of bony deformity in all but 5.5 per cent. of observed cases, and in 3.3 per cent. slightly decreases it. In 83 per cent. of cases a permanent practical cure is brought about.

16. **Hare-Lip.**—The modifications described by Goyder consist in: 1. Extensions of the Owen-Mirault flap. These result in a narrowing of the attached part of the lip without diminishing the effective length from corner to corner. 2. A vertical splitting of this flap. 3. The separation of a thick wedge-shaped ribbon of mucous membrane at the mucocutaneous junction on the side opposite to that on which the Owen flap is cut, leaving it attached by the red margin and dovetailing it into the split Owen's flap. This ribbon is enitrely removed in Owen's operation. This results in a greatly thickened red margin at the line of suture, which is not opposite to the end of the scar in the lip. It does not attract attention, nor does it become increasingly obvious as time goes on. 4. Special methods of dealing with the nostrils. Incise and separate the ala nasi at its junction with the *cheek. Reflect the nasal flap. Suture through alae nasi, the* nasal flap (if used), and back through septal side. Put a suture on the face to close the nostril in front. Deal with lip, remembering that its suture line must not be opposite to that in the nose.

17. **Treatment of Measles.**—Milne again calls attention to the so-called "pencil" infection in measles.

Lancet, London

September 2

18 *Spinal Curvatures and Their Treatment by Physical Exercises. R. Timberg.
19 Omnopon: Potent Adjuvant to Local Anesthesia. H. M. W. Gray.
20 *Breast-Feeding; Value of Test-Feed. E. C. Pritchard, H. R. Carter and W. O. Pitt.
21 Pachon's [illegible] Dally.
22 Fulminati[illegible] Liver Dulness; Ligature-T[illegible] and Q. Chalmers.
23 *Unusual Case of Intussusception. D. Wood.
24 Dermoid Cyst of Testicle. E. E. Hughes.
25 Unusual Abdominal Conditions in Children. V. H. Starr.
26 Evagination of Meckel's Diverticulum. J. W. Thomson.
27 International Exhibition of Hygiene at Dresden. W. E. Hume.

18. **Spinal Curvatures.**—Timberg describes eighteen exercises which he employs in correction of spinal curvatures.

20. **Breast-Feeding.**—It would appear from the authors' observations that those infants who are brought up in institutions and receive a larger amount of breast milk increase in weight more rapidly than those who attend infant consultations as out-patients; on the other hand, among this latter class of infants it would appear that those who receive larger quantities of milk, instead of putting on more weight per week put on a smaller amount. It may be that on an average the milk which is separated in large amounts is inferior in quality, and in this connection it must be remembered that chemical analysis only affords a very crude estimate of quality. Analysis may show the relative percentage of proteids, fats and sugars, but it cannot, as yet, afford a differential estimation of constituent protein bodies, nor does it indicate whether or not they possess toxic properties. On the other hand, it must be remembered that institutional infants live under superior hygienic conditions than do the poor class of infants who attend our consultations; *ceteris paribus*, the better the hygienic conditions and the more active the vital processes the greater is the demand for food. Want of air, sunlight and all the natural stimuli for active metabolism reduce the vitality of our out-patient infants to such a debased level that it is conceivable that an allowance of food which would be physiologically appropriate for the institu*tional infants may be relatively excessive for the needs of* our class of out-patient infant; and overfeeding, as is now well understood, leads sooner or later to malnutrition and loss of weight.

23. **Intussusception.**—The initial symptoms in Wood's case were vomiting and the passage of blood and mucus per anum. Pain was said not to be a marked feature at the onset. The

vomiting persisted periodically for a week, and blood was passed by the bowel for four or five days. Constipation was absolute throughout the illness, so that for a whole fortnight no fecal matter was voided. During the fortnight she apparently had frequent attacks of intestinal colic, but for the greater part of the time she lay in bed in a listless condition, until toward the end when pain became more frequent and more severe, and she then became restless. She took fluid nourishment well after the vomiting had ceased. The abdomen was noticed to swell progressively, particularly toward the end of the fortnight. Several enemata were given, and these were either retained or returned in part without force. There was never any fecal material in the washings, but occasionally some blood and mucus. The tongue was dry and clean; pulse 120 and fairly good, and temperature 99.6 F. The abdomen was uniformly and considerably distended. Peristalsis was not observed. Rigidity was absent and the abdomen was free from tenderness. There was too much distention to allow of any swelling to be palpated. The rectal examination was negative.

On opening the abdomen through a right paramedian incision it was impossible to prevent the prolapse of many coils of greatly distended bowel. An intussusception was easily delivered through the wound. It had traveled to the left iliac fossa. As is usual, the larger part was easily reduced, but the force employed in attempting the reduction of the last 6 inches or so was too great and the intussuscipiens gave way, the intussusceptum escaping through the rent. It was now seen that the intussusception commenced about 18 inches above the ileocolic valve. About 12 inches of the small gut, including the intussusception, were resected, and an end-to-end anastomosis rapidly made. The child's condition was critical, and as the suturing had to be rapidly carried out in edematous bowel the junction was almost certainly imperfect. For this reason, and also on account of the great intestinal distention, the bowel was drained on the proximal side of the junction by a Paul's tube. The abdominal wall was closed save in the lower part where the drainage was established. The patient recovered.

Australian Medical Journal, Melbourne

July 29

28 Technic of Appendix Removal. R. H. Russell.
29 Chronic Kidney Disease S. V. Sewell.
30 Ocular Signs of Renal Disease. F. A. Newman.
31 Two Cases of Chronic Mediastino-Pericarditis. T. E. V. Hurley.

Indian Medical Gazette, Calcutta

August

32 A Year's Medico-Legal Work in Calcutta Morgue, 1910. O. St. J. Moses.
33 Possibility of Two Distinct Varieties of Relapsing Fever Spirochaetal Infection Existing in India. H. Stott.
34 Personal Factor in Sanitation. C. A. Gill.
35 Unusual Cases in Hospital Practice. R. Knowles.
36 Case of Mesenteric Thrombosis. W. L. Harnett.
37 Simple and Cheap Litholapaxy Evacuator. A. J. V. Betts.
38 New Pattern Urinal (for Use in Forts). E. C. Taylor.

Obstétrique, Paris

July, IV N. S., No. 7, pp. 663-728

39 *Puerperal Psychoses. L. Picqué.

August, No. 8, pp. 729-776

40 Obstetrical Anatomy of the Pelvis with Congenital Dislocation of the Hip Joint. (Recherches et conclusions nouvelles sur l'anatomie obstétricale du bassin à luxation coxo-fémorale congénitale double.) J. Delmas.

39. **Puerperal Psychoses.**—Picqué protests most vigorously against sending women with puerperal psychoses to an asylum, declaring that the mental trouble in these cases is merely a delirium accompanying puerperal septicemia. The infectious process may be mild or may cause no symptoms except this delirium, but the women are febrile deliriants and the delirium rises and falls with the rest of the infectious syndrome and does not survive it. He thinks that the importance of latent infection of uterine origin as a causal factor in mental disease does not receive the attention that it merits. His remarks apply only to the psychoses of the puerperium, not of the pregnancy. They may develop even without fever and the infectious process may be located elsewhere than in the uterus; surgical treatment of an infectious arthritis in a woman soon after delivery speedily cured the psychosis observed in one of his cases. An inherited taint is important in that women with it only need an opportunity for the delirium to develop, but an infectious process acting on the predisposition, especially when the infection is of a chronic character, may render the delirium incurable. Otherwise the prognosis depends on the curability of the underlying infectious process. The tardy melancholia of women after childbearing at which there has been no fever, is the result of some attenuated and latent infection, but if the infectious process has run along for a long time and become chronic there is danger that the melancholia may be chronic likewise. The importance of curing the focus at once is demonstrated by these views, which are based on wide clinical experience. He comments with dismay on the number of cases in which women with puerperal psychoses are sent to the asylum in his charge; it is not equipped for the local treatment necessary in these cases. On the other hand, the apyretics, with permanent mental disturbances developing sooner or later after the childbirth, belong in the asylums, as they require psychiatric treatment.

Presse Médicale, Paris

August 12, XIX, No. 64, pp. 657-664

41 *The Arterial Tension in Acute Pulmonary Edema. L. A. Amblard.
42 *Subacute Hemorrhagic Pancreatitis. R. Leriche and L. Arnaud.

August 16, No. 65, pp. 665-672

43 Vaccine Treatment in Typhoid Fever. (Résultats thérapeutiques obtenus par l'emploi du vaccin typhique irradié.) M. Renaud.

August 19, No. 66, pp. 673-680

44 Parasyphilitic Meningitis. A. Sézary.
45 *Albumin Reaction in Pleurisy and Congestion of the Lung. V. Raymond.

August 23, No. 67, pp. 681-688

46 Agglutination Test in Malta Fever. (Valeur de la séroréaction de Wright dans le diagnostic de la fièvre ondulante ou melitococcie.) L. Nègre and M. Raynaud.
47 Sodium Sulphate in Therapeutics. (Comment il faut prescrire le sulfate de soude.) A. Martinet.

August 26, No. 68, pp. 689-696

48 Fracture from Tearing Out of the Tuberosity of the Calcaneus. E. Juvara.
49 Polyglandular Syndrome. (Etude clinique et anatomique d'un type à prédominance thyroïdienne et pancréatique.) M. Faure-Beaulieu, M. Villaret and M. Sourdel.

41. **Blood-Pressure in Acute Edema of the Lungs.**—Amblard states that recent experimental research by others has confirmed his clinical findings in regard to the features of the high blood-pressure preceding acute pulmonary edema from functional insufficiency of the left ventricle. The discovery of a high maximal and minimal blood-pressure should warn of possibly impending pulmonary edema and should be the signal for reducing the minimal arterial tension, the peripheral resistance, and for this, he says, there is only one means; that is, regulation of the diet. All causes for exogenous intoxication should be avoided, as also any unusual amount of salt; the diet should be chiefly milk and vegetables, with as little salt as possible, supplemented by a carefully supervised course of diuretic mineral waters. The heart is then equal to its task and no tonics are required. After an attack, the heart having shown that it has become insufficient, the above measures should be supplemented by tonics to strengthen the heart, especially digitalis. During an attack of acute pulmonary edema bloodletting certainly gives great relief. Morphin given in the hope of combating the dyspnea generally proves disastrous, as it adds the toxic action of the drug to the other burdens under which the kidney is already laboring.

42. **Subacute Hemorrhagic Pancreatitis.**—Leriche and Arnaud report a third case of hemorrhagic pancreatitis in which they have operated. The patient was a man of 48 who had been suffering for two months with recurring pains in the left epigastrium, growing constantly more intense, and radiating backward. A tumor could be palpated under the false ribs while the patient was very anemic and weak. Cancer in the colon was assumed, but the laparotomy revealed merely traces of a recent hemorrhagic pancreatitis with an encysted hematocele which had recently suppurated. The hemorrhagic tendency was revived by the operation, and the patient succumbed

the next day to the constant oozing of blood from the wound. The case teaches that when a hemorrhagic pancreatitis has reached the stage in question the operation should be deferred until healing is a little more advanced unless intervention is urgent. The cachexia and the tumor were the chief symptoms in this case, and they diverted attention from the differentially even more important symptom of the local pains.

45. **Albumin Reaction in the Sputum.**—Raymond's experience confirms the appearance of albumin in the sputum whenever there is any lesion of the parenchyma of the lung, an alveolitis. It is a constant accompaniment of serofibrinous pleurisy and acute congestions of lungs and pleura. Cautious interpretation of positive findings throws light on the lesions involved, as he shows by a dozen clinical cases. In one of the cases the positive albumin reaction, in connection with persisting temperature and the history of the case, seemed to indicate that an old and healed tuberculous lung process had flared up anew under the influence of an attack of measles. In other cases the acute character of the febrile lung affection giving the albumin reaction, the connection with a simple bronchitis, the albuminuria and absence of tubercle bacilli in the sputum—all indicated that the trouble was a comparatively transient pulmonary affection, possibly the work of the pneumococcus. The persistence of the albumin reaction for some time after recovery reveals the lesion of the lung parenchyma, which is the true substratum of the affection; the vascular congestion is not the main feature of the cases, but rather the active exudation into the alveoli, as well as into and under the pleura. The alveolitis is responsible for the main physical signs observed. In one of the cases reported the negative albumin reaction excluded tuberculosis, and showed that the trouble was a simple chronic bronchitis and emphysema in an old case of healed pulmonary tuberculosis.

Revue de Chirurgie, Paris

August, XXXI, No. 8, pp. 215-390

50 *Tuberculous Hip-Joint Disease. (Etude critique sur la coxalgie et mise au point de quelques trauvaux sur le traitement.) E. Vincent.
51 *Osteomyelitis of the Sacrum. H. Gaudier and P. Bertein.
52 Primary Glandular Epithelioma of the Vagina. (Sur une forme particulière d'épithélioma primitif du vagin.) Argaud and Piollet.
53 *Technic for Perineal Prostatectomy. (Nouveau procédé de prostatectomie périnéale.) H. Martini.
54 *Fracture of the Spine in the Neck Without Cord Symptoms. (Des fractures du rachis cervical sans symptomes médullaires.) J. Boeckel and A. Boeckel. Commenced in No. 6.

50. **Tuberculous Hip-Joint Disease.**—Vincent adds a number of points and details to complete Coudray's article on this subject published in the *Revue* last April. Vincent advocates resection for a certain group of cases in young children, but not for adults or older children. He applies resection only after failure of all conservative measures, but insists that when it is done in time it will save many a child who would inevitably succumb if left to Nature's efforts alone or even aided by the whole train of modifying injections, immobilization, extension, traction, fresh air, sea bathing and all other hygienic measures.

51. **Osteomyelitis of the Sacrum.**—Gaudier and Bertein have found twenty-seven cases of osteomyelitis of the sacrum in the literature, including nine reported by French authors. The prognosis is graver than for osteomyelitis elsewhere in the spine, the signs of general infection are more pronounced. They explain this by the anatomic arrangement of the parts owing to which the infectious focus is walled in deep and may not monifest itself for some time. The germs thus shut up in a closed cavity have their virulence exalted and induce general infection with serious phenomena, sometimes even before the focus has been brought to the patient's attention. Operative treatment is indicated at the earliest possible moment to ward off severe general infection or attenuate it. They give the details of the total twenty-seven cases; operative measures, even the most extensive, failed to save the patient except in seven instances, including Hunt's and Young's cases.

53. **Instruments for Perineal Prostatectomy.**—Martini uses a kind of cat's paw instrument to draw up the whole prostate, the three claws folding together as the instrument is introduced. Guided and sheltered by this instrument, another is introduced with a scoop at the tip made of three triangular sharp blades. This resects the prostate tissue, while it is impossible, he says, for it to cut too far or injure the bladder wall. The article is illustrated.

54. **Fracture of the Spine in the Neck Without Spinal Cord Symptoms.**—Bœckel declares that the prognosis of fracture of the cervical spine has been shown up in an entirely new light by the Roentgen rays which have revealed that even extensive fractures may exist and heal without any spinal cord disturbances, and that fractures of the cervical spine, atlas and axis are much more common than hitherto supposed, and explain many hitherto puzzling conditions, the latent fracture having been taken for a sprain, contusion, rheumatism or neurosis or the patient accused of simulation. An early diagnosis is of the greatest importance to ward off mischief later; when trouble does occur it is always extremely serious, if not fatal. Fifty-seven cases are described from the literature or previously unpublished records, and the various differentiating symptoms and best technics for treatment in the different cases are reviewed. The mortality was 34.3 per cent. in the total number and only 22.2 per cent. when the fracture involved the third to the seventh cervical vertebræ. Fracture of the vertebræ above these is much more serious, the mortality having been 45.1 per cent. in his series. At the same time all the seventeen patients have recovered of the former class and the fourteen patients in the latter class, since roentography has been introduced. These figures show that the prognosis of fracture of the spine without injury of the cord has been transformed since it has been possible to recognize it early and apply proper treatment to insure consolidation in a good position, restoring the spine to its normal length and preventing the vertebra above from pressing on the fractured vertebra, while at the same time preventing tardy compression of the spinal cord later from overexuberant callus or traumatic spondylitis. The physician should superintend the transportation of the patient so that the fractured bones may not become displaced. Chipault advises laying a large plank beside the patient after the accident, covering it with a folded sheet, with a crosspiece arranged at the level of the neck; four persons are to lift the patient on the plank while the physician lifts the head and neck with both hands. He has known of persons without spinal cord symptoms after an accident of the kind to become paralyzed or succumb as they were lifted to carry them away. A radiograph should be taken before the patient is removed from the plank to his bed with similar precautions. The fracture should then be gradually reduced and immobilized or extension may be necessary, eventually kept up for a year or longer. Boeckel has compiled nearly a hundred cases of fracture of the cervical spine which healed promptly under these measures. Tardy accidents in other cases have sometimes required rupture of the callus, laminectomy or the figure-eight wire ligature. Defective healing of the fracture causing trouble in some cases was cured by renewed reduction and extension.

Semaine Médicale, Paris

August 23, XXXI, No. 34, pp. 397-408

55 *Vertigo of Intestinal Origin. (Le vertige intestinal.) M. Loeper.

August 30, No. 35, pp. 409-420

56 *The Unappreciated Rôle of Acute Gastritis in Infectious Diseases. L. Cheinisse.

55. **Vertigo of Intestinal Origin.**—Loeper demonstrates how the apparatus of equilibration is liable to be affected by toxins generated in the intestines, by irritation of the nervous elements directly or by vasomotor fluctuations in the tension in the semicircular canals. These variations in tension may be independent of the general circulation, and to determine this the general arterial tension should be investigated, as this, in connection with hypertoxicity of the urine and other phenomena of a toxic order, distinguishes toxic from reflex vertigo. Treatment should be addressed to the bowels, supplemented by amyl nitrite in case the arterial tension is very high or spartein, strychnin, ether, bromids or valerian in case it is low. All irritating foods should be avoided, as also large amounts of fluids which suddenly increase the mass of

the blood. It is important not to depress the patients by a too exclusive or debilitating diet. Many such patients are already excessively nervous and all become so if the vertigo persists, which should be borne in mind in treatment with means to reduce the excitability of the neuromuscular system.

56. **The Unappreciated Rôle of Acute Gastritis in Infectious Diseases.**—Cheinisse does not accept Jerusalem's view that the relics of interstitial gastritis with proliferation of connective tissue which he has discovered at necropsies as such a constant phenomenon in acute infectious diseases, are merely a functional disturbance from the general infection. Cheinisse has encountered several cases of erysipelas and mumps in which the gastric symptoms dominated the clinical picture and could be explained only by assuming a localization of the specific infectious process, the erysipelas or the mumps, in the stomach. The prognosis differs naturally if the acute stomach trouble is a localization of erysipelas or mumps, especially when it is borne in mind that phlegmonous gastritis is not such a rare occurrence as formerly supposed. Cheinisse had a case of the kind in 1909, the phlegmonous gastritis developing in the course of an apparently mild erysipelas. The considerations presented suggest the importance of leaving the stomach in repose during the "gastric phase" of any acute infectious disease.

Beiträge zur Klinik der Tuberkulose, Würzburg

XX, No. 2, pp. 215-340. Last indexed August 5, p. 516

57 Albumose-Free Tuberculin. (Erfahrungen mit eiwissfreiem Tuberkulin.) W. Freymuth.
58 *Reinfection with Tuberculosis. (Ueber Tuberkulose-Reinfektion mit bes. Berücksichtigung der Heilstätten.) W. Freymuth.
59 The Type of Respiration in Women. (Kostaler und abdominaler Atemtypus beim Weibe.) G. Liebe.
60 Endotin in the Treatment of Tuberculosis. A. Camphausen.
61 *Induced Abortion and Tubal Sterilization on Account of Pulmonary Tuberculosis. A. Schottelius.
62 *Experimental Tuberculin Tests. (Die subkutane Tuberkulininjektion als Mittel zur Diagnose des Tuberkelbazillus im Tierversuch.) M. Jacoby and N. Meyer.
63 Elbon in Treatment of Febrile Tuberculosis. (Ueber die Behandlung des tuberkulösen Fiebers durch kontinuierliche Benzoylierung mit Cinnamoyl-para-oxyphenylharnstoff.) W. Minnich.
64 Blood-Pressure After Injection of Tuberculin. (Blutdruckmessungen nach Tuberkulininjektionen.) R. Reznicek.

58. **Reinfection with Tuberculosis.**—Freymuth is chief of the great Belzig sanatorium and he has been reviewing the files of the institution to learn the chances for reinfection at such sanatoriums. He examined the records of 1,400 adults and 328 children, inmates of the sanatorium in 1908 to 1910. He found only thirty cases among the adults in which tubercle bacilli were found in the sputum after they had been in the sanatorium some time, while none were discoverable when they entered, that is, only in 2 per cent., while only two of the children, that is, 1 per cent., came into this category. The interval was only from three to eight days which excludes the possibility of reinfection. The findings related confirm, he thinks, that there is not the slightest necessity for separating the patients with closed from those with open tuberculous lesions. The healthy are exposed to droplet infection, but he knows of no case on record in which a healthy person became infected with tuberculosis in a sanatorium. This may be due to the fact that the supposed healthy are already infected with tuberculosis and consequently immune, or to the fact that the residence in a sanatorium for lung disease induces immunization in time. The question still open to discussion is whether the life in common of patients with open and closed pulmonary tuberculosis may not lead to transmission of mixed infection, and hence that patients with demonstrated mixed infection should be isolated.

61. **Interruption of Pregnancy in Tuberculous Women.**—Schottelius calls attention to the strange fact that older observers used to ascribe a beneficial influence to a pregnancy in the course of pulmonary tuberculosis, while in recent years the tendency has been to attribute a very harmful influence to it. He regards abortion as indicated whenever pulmonary tuberculosis is diagnosed beyond question as his experience shows that in at least 75 per cent. of all the cases the lung affection rapidly progresses during the pregnancy and puerperium. The written consent of the patient and her husband and of a consulting internist are necessary—the responsibility lies with the family physician or the consulted lung specialist. Once decided, the pregnancy should be terminated as soon as possible and be supplemented by tubal sterilization if the woman has already borne more than one child. The more pressing indication for hysterectomy in these cases is excessive uterine hemorrhage. The disturbances from castration should turn the scale in favor of leaving the ovaries. The sterilization induced by exposure to the Roentgen rays destroys the ovaries and thus is equivalent to panhysterectomy, but it has the advantage over this of being a bloodless procedure, not requiring general anesthesia.

62. **Subcutaneous Tuberculin Test After Diagnostic Inoculation of Animals.**—Jacoby and Meyer advocate a subcutaneous injection of 0.5 c.c. of tuberculin two weeks after the animal has been inoculated with the suspected sputum, as a means to simplify and hasten the findings. They report twenty-seven series of experiments with a total of 221 guinea-pigs including forty-three control animals. Fully 88 per cent. of the animals given the test, in from eleven to fourteen days presented a marked reaction; the results were conflicting or negative when the sputum had been previously treated with alkaline solution of sodium hypochlorite (antiformin). The animals giving a positive reaction either died or showed a marked drop in temperature of at least 5.4 F. The anatomic findings were positive in every case giving a specific reaction. They advise using three guinea-pigs, not over 250 gm. in weight each, injecting on the eleventh, the sixteenth and twenty-first days, making a subcutaneous injection of 0.5 c.c. tuberculin. It is thus possible to clinch the diagnosis within two weeks.

Berliner klinische Wochenschrift

August 28, XLVIII, No. 35, pp. 1585-1624

65 Laryngo-Rhinology as an Independent Medical Science. G. Killian.
66 Action of Salvarsan in Syphilis Affecting the Upper Air Passages O. Chiari.
67 *Treatment of Loss of Voice. (Dysphonia spastica.) O. Seifert.
68 Diagnosis and Treatment of Disease in Nasal Sinuses with Eye and Orbit Symptoms. A. Onodi.
69 Mesothorium in Therapeutics. G. Baumm.
70 *Stretching of the Pylorus in Benign Stenosis. M. Einhorn.
71 Results of Operation for Myopia. H. Feilchenfeld.
72 *Differential Atmospheric Pressure in Lungs by Impeding Expiration. (Einfaches Ueberdruckverfahren.) E. Aron.

67. **Treatment of Aphonia.**—Seifert discusses the five groups in which spastic dysphonia may be classified, the hysteric, the reflex, the professional neuroses, those accompanying cerebrospinal affections, and the group in which no causal factor can be discovered. He has obtained exceptionally fine results in this latter class by a method which he describes in detail, aiming to exclude causal spasms in the muscles of the neck, abdomen and diaphragm, while training the patient to speak, on the same principles as in the treatment of stuttering. He accomplished this by having the patient lie across a sofa, the back of his neck supported on the thigh of a third person sitting near the sofa while the patient's head drooped a little, the feet supported on a stool. In this position the patient was trained to breathe deep and regularly and relax all the muscles. After two or three days he had learned to do this and then he was told to whisper "ah" and "ay" and then gradually increase the sound while the physician compressed the abdominal walls after each deep inspiration. The patient was taught to speak with as deep a voice as possible. After two weeks of these exercises he was able to do them sitting up, pressing on the epigastrium to exclude the contractions of the abdominal musculature and diaphragm. By the end of the month the patient was quite cured. He was a man of 36 and the aphonia had developed over two years before and was complete, not obtaining any relief until this course of exercises. A letter from him over a year later confirms the permanency of the cure, and his recovery is evidenced in an official communication from the mayor of his home town, a city with 16,000 inhabitants, expressing the universal gratitude for his cure.

70. **Stretching the Pylorus with Benign Stenosis.**—Einhorn's work was described in The Journal, May 27, 1911, p. 1607.

72. **Simplified Differential Pressure Procedure.**—Aron reports experimental research which demonstrates that a device impeding expiration keeps the lungs permanently inflated, even during expiration, so that the thorax can be opened without its collapsing. It is possible that this principle may be applied in operations on the human chest. His technic requires a preliminary tracheotomy.

Correspondenz-Blatt für Schweizer Aerzte, Basel

July 20, XLI, No. 21, pp. 737-768

73 *Action of Arsenic and Habituation. (Ueber Arsenikwirkung und -Angewöhung.) M. Cloetta.
74 *Glycerin Dressings for Infected Wounds and Lesions. (Behandlung von infizierten Wunden, Phlegmonen, Panaritien und Adenitiden mit Glyzerinverbänden.) F. Rusca.

August 1, No. 22, pp. 769-800

75 Lumbago from Standpoint of Industrial Insurance. (Einige Betrachtungen über Lumbago vom Standpunkt der Unfallversicherung aus.) E. Patry.
76 Sterilization of Sewage. (Ueber Abwässerreinigung.) W. Silberschmidt. Commenced in No. 21.

August 10, No. 23, pp. 801-832

77 Diagnosis of Heart Disease. (Beiträge zur modernen Herzdiagnostik.) D. Gerhardt.
78 *Subcutaneous Drainage of Ascites. E. Tavel.

August 20, No. 24, pp. 833-864

79 Medical Professional Work from Forensic Standpoint. (Aerztliche Berufshandlungen und die Strafrechtsreform.) A. Kaiser.
80 Opening of Cheesy Foci in Tuberculous Lung. (Durchbruch von Käseherden in der tuberkulösen Lunge.) Erni.

73. **Arsenic the Digitalis of the Metabolism.**—Cloetta thus calls arsenic in his article reporting experimental research on its action. He found that animals fed with arsenic developed much better in every respect than the controls from the same litter. That this better physical development includes the vital tissues, and is not merely increased accumulation of fat, is shown by the fact that the total tissues of the animals ground into a homogeneous mass, from which water and fat were extracted, showed a larger proportion of nitrogen in the arsenic animals than in the controls. He accepts this as evidence that the arsenic actually promotes the metabolism as digitalis promotes the action of the heart—laboratory research thus lumbering along to explain the facts observed by empiric observation generations ago. He fed dogs with arsenic over long periods, one of the dogs, a fox-terrier, he thinks, must be accorded the record for eating arsenic, as he took 0.5 gm. of arsenic daily for two months and then 2.6 gm. a day without harm, the arsenic feeding being kept up for over two years. Cloetta's further research, however, swept away the idea that the animal had become habituated to the drug, as it was proved that he merely had ceased to absorb it. The lining of the alimentary canal had evidently become modified in such a way that it ceased to absorb the arsenic. This is probably the explanation for the resistance to arsenic acquired by trypanosomes in time and suggests the importance of supplementing salvarsan or other preparations of arsenic with mercury to which the spirochetes do not acquire resistance so soon. For the same reason he hails with approval the efforts to use preparations of antimony against the trypanosomes. There does not seem to be any habituation to antimony, and the proportion absorbed does not progressively decline as is the case with arsenic. He adds that Rowntree and Abel's recent work in this line in this country confirms the results obtained in his researches on dogs in regard to the trypanosomes becoming proof against arsenic and antimony.

74. **Glycerin Dressings for Infected Wounds.**—Rusca is seeking to revive glycerin as a dressing for wounds. Its water-attracting power serves to reduce the congestion in the region while it keeps the wound clean by taking up the secretions and softening the necrotic tissue and crusts so that they can be readily removed, thus depriving the germs present of their favorite nests. Glycerin has also a slight sterilizing action which might be enhanced by addition of some disinfectant. There cannot be the slightest danger from the use of glycerin; he continues, as even taken internally in large doses there does not seem to be any toxic action. He saturates a compress with official glycerin and applies it to the lesion, covering with an air-tight cover, and changes the dressings twice a day. He has obtained excellent results with this technic in 100 cases of various local infectious processes, the lesions soon clearing up and healthy granulation following, except the tuberculous lesions; these do not seem to be influenced. The glycerin dressings are free from the coagulating action on albumin which is one of the disadvantages of alcohol dressings.

78. **Subcutaneous Drainage of Ascites.**—Tavel uses a glass spool with broad ends, the hole through the center 1 cm. in diameter. One end of the spool is worked through into the peritoneal cavity and an ample hole to hold the other end of the spool is made for it in the subcutaneous tissue. Not even local anesthesia is required for the insignificant operation of introducing the spool; the only point is to manage so that omentum will not get into the lumen and obstruct it. He has used the spool in five cases which he reports in detail, the outcome being excellent in all, the ascites draining effectually and harmlessly into the subcutaneous tissue.

Deutsche medizinische Wochenschrift, Berlin

August 24, XXXVII, No. 34, pp. 1545-1584

81 Experimental Tuberculosis of the Eye. (Zur experimentellen Tuberkulose des Auges.) F. Krusius.
82 Transmission of Syphilis to Rabbits by Spirochetes Cultivated from Man. (Uebertragung der Syphilis auf Kaninchen mittels reingezüchteter Spirochäten vom Menschen.) H. F. W. Hoffmann
83 *Chronic Salvarsan Treatment in Syphilis. E. Kromayer.
84 Salvarsan in Treatment of Chorea. B. Hahn.
85 Salvarsan in Bilharziasis. N. Z Joannides.
86 *Pathogenesis of Pick's Pericardial Pseudocirrhosis. E Fogarasi.
87 Oriental Sore. (Die endemische Beulenkrankheit oder Orientbeule.) A. Reinhardt
88 *Lead Poisoning and the Wassermann Reaction. (Bleivergiftung und Wassermannsche Reaktion.) F. Perussia.
89 *Surgery of the Blood-Vessels. (Arterien-Venenverbindung.) E. Heymann.

83. **Chronic Salvarsan Treatment of Syphilis.**—Kromayer asserts that the experience acquired with other drugs in the treatment of syphilis teaches that it is impossible to eradicate the disease at one stroke, no matter how large the dose of mercury or other drug. Success is possible only with long continued small doses, and the same is evidently true of salvarsan. He has been giving it on this priniciple for nearly a year, making an intravenous injection of about 0.2 gm. of salvarsan three times a week, up to a total of 3.6 gm. Of 365 patients thus treated he has recently had 136 reexamined and the findings confirm his statements that this is by far the best method of treating syphilis at our disposal. There was no neurorecurrence in any instance and no recurrence of symptoms in any case in which the total dosage had amounted to over 1.6 gm. of salvarsan. He is convinced that inadequate dosage of salvarsan as well as of mercury, exposes the patient to the danger of recurrences in a serious form more than if he had not been treated at all. It is his practice to give some mercury with the salvarsan, and the fact that the neurorecurrences subside under calomel he accepts as evidence that they cannot be due to intoxication from the salvarsan but are actually manifestations of the syphilis.

86. **Pericardiac Pseudocirrhosis.**—Fogarasi discusses the mechanism and development of polyserositis, especially that form which Pick has described as pericardiac pseudocirrhosis. It may develop from polyserositis alone or from stasis resulting from mischief in the pericardium, the syndrome being practically identical, although the mechanism may thus be so widely different. To sustain these views he reports a case in which a boy of 17 was hit in the heart region; after five months pericarditis developed, keeping him in bed for six weeks. About three months later a tendency to edema of the ankles and anasarca became evident, the latter due to stasis of both mechanical and tricuspid origin, the liver becoming enlarged at the same time.

88. **Wassermann Reaction Not Pathognomonic of Lead Poisoning.**—Perussia states that he found the reaction constantly negative in thirty-five non-syphilitic patients with various manifestations of lead poisoning and three others who had been infected with syphilis in previous years but had received vigorous treatment. His findings conflict with those of Dreyer, who obtained a positive reaction in sixteen similar cases among sixty patients examined, and Schnitter's, who found the reaction positive in four of sixteen cases.

89. **Surgery of the Vessels.**—Heymann reports the complete cure of angiospastic gangrene in a man of 47, a teacher, by diverting the arterial blood into one of the veins in the forearm. He gives an illustrated description of the technic; the benefit realized at once has persisted unmodified during the ten months to date of writing.

Medizinische Klinik, Berlin

August 6, VII, No. 32, pp. 1223-1260

90 *Pelvic Tuberculosis in Women. (Beitrag zur Klinik der Genital und Peritonealtuberkulose des Weibes.) M. Neu.
91 *Gastric Tetany. E. Bircher.
92 *Two Simultaneous Forms of Abdominal Disease. (Doppelerkrankungen mit konkurrierenden Symptomen.) T. Walzberg.
93 Tuberculin Plus Climatic Treatment of Tuberculosis. A. Wolff-Eisner.
94 Causal Connection Between Syphilis and Idiocy. E. Kröber.
95 Apparatus for Combined Anesthetics, Differential Pressure and Artificial Respiration. (Drägers Kombinationsapparat für Mischnarkose, Ueberdruckverfahren und künstliche Atmung.) O. Roth.
96 Physical Features of the Atmosphere from Medical Standpoint. A. Gockel.
97 The American Medical Student. (Der amerikanische Mediziner und sein Milieu.) Spier.

August 13, No. 33, pp. 1261-1298

98 Treatment of Acute Gastro-Enteritis in Infants. (Behandlung der akuten Magendarmerkrankungen im Säuglingsalter.) F. Göppert.
99 The Differential Stethoscope and the Heart Sounds. (Messungen der Intensität des Herzschalls vermittels des Bockschen Differential-Stethoskops.) Goldschmidt.
100 Titanium in Therapeutics. (Ueber die medizinische Verwendbarkeit der Titanverbindungen.) J. Pick.
101 Mineral Springs and Radio-Active Properties. (Bedeutung der hochradioaktiven Quellen im Lichte der modernen Emanationstherapie.) S. Lachmann.
102 Diagnosis of Scabies. A. H. Rosenberg.
103 Jellying of Albuminous Urine. (Gelatinierung eines eiweisshaltigen Urins durch Zusatz von Essigsäure.) G. Moruzzi.

August 20, No. 34, pp. 1299-1336

104 Operative Tendency in Obstetrics. (Die Berechtigung der modern-chirurgischen Bestrebungen in der Geburtshilfe.) H. Küster.
105 Commercial Chopped Meats from the Hygienic Standpoint. (Hackfleisch, Hacksalze und Hackfleischerkrankungen.) H. Trautmann. Concluded in No. 35.
106 *Cerebral Influenza. (Hirninfluenza.) K. Stepp.
107 Acute Painful Symmetric Lipomatosis. J. Klinkowstein.
108 Treatment of Diabetes Mellitus. A. Lenné.
109 Primary Cancer of the Bronchi. (Chronische Bronchialerkrankungen mit Ausschluss der Tuberkulose.) A. Posselt. Commenced in No. 32.
110 *End-Results of Operative Treatment of Non-Pyloric Gastric Ulcer. (Ergebnisse der chirurgischen Behandlung des nichtpylorischen Ulcus ventriculi.) W. Zweig.
111 Hemolysins in Cerebrospinal Fluid in Acute Meningitis and Progressive Paralysis. E. Weil and V. Kafka.

90. **Pelvic Tuberculosis in Women.**—Neu has been able to reexamine seventy-seven women who had been under treatment for genital or peritoneal tuberculosis at the Heidelberg clinic between 1902 and November, 1910. Of the fifty-five given operative treatment, 75 per cent. were living and 52 per cent. of the twenty-one treated by conservative measures. On account of the uncertainty of the diagnosis and prognosis of tuberculous processes in the peritoneum and genital organs, operative treatment is indicated, he thinks, if there are no advanced tuberculous lesions elsewhere, particularly in the lungs. The operation should be as radical as possible, including in case the genital organs are involved removal of the uterus, both tubes and the ovary affected. In the inoperable cases, the conservative measures then indicated should include Roentgen therapy. A course of sanatorium treatment before or after operative treatment is extremely desirable. Neu protests against exploratory puncture, advocating rather an exploratory incision. He warns further against the dangers of diagnostic tuberculin tests. The reaction is liable to be far from harmless; he has witnessed cases in which the diagnostic injection of tuberculin seemed to start the process to a progressive course or it had a most unfavorable influence on a tuberculous process elsewhere, especially in the lungs, and depressed very much the general health. He inquires whether others have had similar experiences. He regards exploratory curetting likewise as liable to prove dangerous.

91. **Gastric Tetany.**—Bircher writes from Switzerland, where tetany is comparatively rare, to report several cases of gastric tetany, some with a fatal outcome, and a case of tetany in a soldier after overexertion. The features in the latter case suggested a combination of idiopathic with gastric tetany. In another case the tetany developed in the course of recurring gastro-intestinal disturbances in a man of 30, a hard drinker. After five days of ileus, tonic spasms developed in the neck and muscles of the jaw and cramps in the legs. Necropsy showed the stomach enormously dilated and the jejunum kinked 1 cm. below the pylorus. In three other cases the spasms came on two or six days after appendectomy in children between 5 and 17 and proved fatal in a few hours. A toxic action from the peritonitic effusion seems to have been the probable cause of the tetany in these cases, and he thinks that this may occur more often than supposed and that surgeons should bear its possibility in mind. In another case a woman of 39 of a neuropathic family had anterior gastro-enterostomy done for stenosis of the pylorus from ulcer. The stomach was found much dilated, but there was no tendency to tetany. The pylorus was so closely adherent to the liver that it could not be detached. At the ninth day of convalescence tetany developed and soon proved fatal. The gastro-enterostomy was found doing its work and Bircher is inclined to attribute the tetany in this case to lack of water in a predisposed subject—the rectal injection of water had not sufficed to quench the thirst. He knows of no similar case on record in which tetany was brought on by an operation on the stomach. In another case a similar operation cured tetany in a farm hand, the extreme irritability of the musculature in this case surpassing anything of the kind he has ever heard of. The man had had a goiter removed twenty years before.

92. **Two Simultaneous Forms of Abdominal Disease.**—Walzberg reports three puzzling cases in which an intestinal ulcer and appendicitis were associated or umbilical hernia and ileus, the latter explained by a cancer in the transverse colon, or there was an umbilical hernia plus hernia in the median line and thrombosis of the mesenteric vessels. In the last mentioned case the thrombosis was in such an incipient stage that it was not recognized and the abdomen was sutured after the herniotomy. Walzberg gives the details of the cases on the principle that one learns most from one's mistakes. The symptoms had been ascribed to the partial incarceration of the bowel in the hernia openings and to a cord-like adhesion connecting the omentum with one hernial sac. The root of the mesentery was seen studded with fan-like extravasations and some of the vessels were gorged with blood. Nothing macroscopic could be detected on the connected loops of intestines and the abdomen was sutured. The third day symptoms developed, showing that there must have been incipient embolism at the time of the operation.

106. **Influenza of the Brain.**—Stepp says that not enough attention has been paid to the cerebral disturbances liable to be directly induced by influenza localizing in the brain. In his three cases the patients were free from cardiovascular trouble and all were in the forties. The disturbances developed gradually at first, paralysis of the cheek, then hemiplegia and after a few days the other side was affected. The trouble is probably a disturbance in the smallest capillaries of the brain, inducing diapedesis. Complete recovery may follow or the extravasations may become confluent as after ordinary apoplexy. This recalls the fact that in most cases influenza begins with intense headache. It also suggests that persons with arteriosclerosis are exposed to peculiar danger during epidemics of influenza, and that under the influence of the infection ordinary apoplexy may occur with unusual frequency.

110. **End-Results of Operative Treatment of Non-Pyloric Gastric Ulcer.**—Zweig has records of twelve cases in his practice in which a gastro-enterostomy was done for a gastric ulcer, not located near the pylorus. The outcome was good in only five of the twelve cases; four deaths and three severe recurrences show that gastro-enterostomy under these conditions is a dangerous operation and benefits only in the rarest cases. These experiences, he adds, stand in marked contrast to the rosy reports from the surgical clinics. In conclusion he reports a case which shows that the success of operative treatment is not always attributable to the operation. A man with recurring gastric hemorrhage was so debilitated that jejunostomy was contemplated but the patient refused

an operation and was freed from all disturbances by a six-months' course of treatment in a sanatorium. He has had no trouble since, showing that even in apparently desperate cases of gastric hemorrhage the hemorrhage may finally stop of itself without surgical aid.

Münchener medizinische Wochenschrift

August 15, LVIII, No. 33, pp. 1753-1800

112 *"Puerperal Self-Infection." W. K. Zangemeister.
113 Behavior of Organs After Local Injections of Radium. (Ueber das Verhalten der Organe nach Radiumeinspritzungen am Ort der Wahl.) C. Ramsauer and A. Caan.
114 *Influence of Passive Exercises on the Circulation. (Einfluss passiver Bewegungen auf den Blutkreislauf.) E. Veiel and T. Zahn.
115 *Diagnostic Artificial Stasis Hemorrhages in the Skin. (Ueber Stauungsblutungen in der Haut.) F. W. Strauch.
116 Favorable Experiences with Hydrochloric Acid Treatment of Gout. (Zur Diagnose und Therapie der Gicht.) J. Schmidt.
117 *Name of the Syphilis Germ. (Benennung des Syphiliserregers nebst Bemerkungen über seine Stellung im System.) E. Hoffmann.
118 Elimination of Salvarsan in the Urine After Intravenous Injection. (Beginn und Dauer der Ausscheidung des Salvarsans durch den Urin nach intravenöser Injektion.) J. Abelin.
119 Jaundice with Fatal Outcome After Salvarsan Treatment. A. Hofmann.
120 Comparative Mortality of Breast-Fed Infants and Infants Fed on "Albumin Milk." A. Döblin.
121 *Influence of Emotions and Mind on Heart Action. (Zur Frage der psychischen Beeinflussung der Herzaktion.) R. Lederer and K. Stolte.
122 Technic for Local Anesthesia in Rhino-Laryngology. H. Reimers.
123 Postoperative Asphyxia After Pantopon-Scopolamin-Chloroform Anesthesia. C. Haeberlin.
124 *Treatment of Uncontrollable Vomiting of Pregnancy. R. Foerster.
125 Radium Ferment Therapy. K. Laubenheimer and A. Caan.
126 Phosphaturia. M. Oppenheim.

August 22, No. 34, pp. 1801-1848

127 Treatment of Cancer with Radio-Active Substances, Especially Actinium. V. Czerny and A. Caan.
128 Technic for Intravenous Salvarsan Treatment in Syphilis. E. E. Hüfler and J. Herbsmann.
129 *Case of Fatal Hemorrhagic Encephalitis Following Injection of Salvarsan in Syphilis. B. Fischer.
130 *Fatality Following Injection of Salvarsan in Syphilis. (Zur Kasuistik der Todesfälle nach Salvarsanbehandlung.) Kannengiesser.
131 *Acute Hemorrhagic Encephalitis Following Intravenous Injection of Salvarsan in Syphilis. J. Almkvist.
132 Experimental Research on Biology of Woman's Blood. (Weitere experimentelle Beiträge zur Biologie des Blutes in der Gestationsperiode des Weibes.) M. Neu.
133 Hypophysis Extract in Treatment of Osteomalacia. H. Bab.
134 Medicolegal Examination of Seminal Stains. (Ueber forensischen Spermanachweis.) J. Joesten.
135 Behavior in Animal Body of Organic Bromin Compounds. E. Magnus-Alsleben.
136 Choice of Tuberculin. (Wahl unter den verschiedenen Tuberkulinen.) K. Blümel.
137 *Technic for Intravenous Injection of Salvarsan. G. Knauer and A. Strauss.
138 Vasoconstricting Substances in Serum in Rachitis, Tetany and the Exudative Diathesis. S. Samelson.

112. **Puerperal Auto-Infection.**—Zangemeister declares that this term should be dropped in favor of "infection with endogenous germs." From this point of view the prophylaxis of puerperal infection is seen under a new aspect. It may be the result of (1) any spontaneous or artificial inoculation of these endogenous germs; (2) the production of fresh wounds, thus favoring the inoculation with the endogenous germs; (3) by importation of germs from without, and (4) by the inducing of fresh wounds, inoculating these germs. The obstetrician may thus be responsible for a puerperal infection in any of these four ways and prophylaxis should bear each of the four in mind. Among the dangers are interference with the escape of the discharges, stagnation of the lochia in the first days after delivery, or by palpation of the uterus or extra-uterine maneuvers the germ may be inoculated into already existing raw points. It is possible that germs introduced by the obstetrician's hand may not be inoculated into a wound at first, but erosions may occur later into which the germs may finally get, or the maneuvers may be with a germ-free hand or instrument, but the resulting wounds may become infected later by germs already present. These possibilities have been demonstrated again and again in his clinical experience and experiments on animals. His views in regard to infection from the germs already present should not lead to disregard of the dangers of infection from without, but they open our eyes to the hitherto unrecognized enemy from within and place new weapons in our hands to ward off this danger which we have heretofore run blindly into. His statistics in 220 cases show that the women had streptococcus infection quite as frequently when they had not been examined as when this had been done.

114. **Influence of Passive Exercises on the Circulation.**—Veiel and Zahn report study of the conditions in the circulation, during and after application of Büdingen's apparatus for "hill climbing in bed" (mentioned in The Journal, April 29, 1911, page 1302). The findings indicate that these passive exercises have the same favorable effect on the circulation as vigorous active exercise only in a lesser degree.

115. **Stasis Hemorrhage in the Skin.**—Strauch has been testing on 180 patients and 160 healthy persons the effect of application of a constricting band to the arm, which Rumpel and Leede have advocated as a test for the presence of scarlet fever by the resulting minute hemorrhages in the skin at the bend of the elbow which they regard as pathognomonic for scarlet fever. Strauch, however, found it very frequent in all kinds of diseases and in health; in 68 per cent. of nineteen cases of acute rheumatism, in 37 per cent. of eight cases of diphtheria, in 62 per cent. of typhoid, malaria, etc., and in nearly half of the healthy persons tested.

117. **The Syphilis Spirochete.**—Hoffmann cooperated with Schaudinn in the discovery of the *Spirochæta pallida* and he here presents evidence to show that this is the proper scientific name for it.

121. **Psychic Influence on the Heart Action.**—Lederer and Stolte have found that the heart sounds can be modified in children with unstable hearts after scarlet fever by merely threatening or frightening the children. The mere sight of instruments was enough to modify the heart sounds under the stethoscope and they believe that their experiences in this line sustain the assumption of the possibility of sudden arrest of the heart action under emotional stress.

124. **Vomiting of Pregnancy.**—Foerster suggests on the basis of clinical experience that changing the position of the gravid uterus in some slight measure might act on the uncontrollable vomiting of pregnancy, either at the time or in prophylaxis.

129. **Hemorrhagic Encephalitis Following Injection of Salvarsan.**—Fischer's patient was a physician only 40 years old, who had recently contracted syphilis in his professional work, the primary sore being in the nose. He was given an intravenous injection of 0.4 gm. salvarsan, followed by thirty mercurial inunctions. After an interval of five days, thus forty days after the first injection of salvarsan, the same amount was injected again and two and a half days afterward symptoms of severe acute hemorrhagic encephalitis developed, which was rapidly fatal. Fischer cites a case recently reported by Plötzl and Schüller in which a rapidly fatal hemorrhagic encephalitis developed in a woman in an early stage of syphilis under mercurial treatment. These and other facts observed lead Fischer to ascribe the encephalitis in his and similar cases to a process of anaphylaxis, but the further fact that this is observed only in syphilis, suggests that the disease is liable to entail certain molecular changes in the brain substance, possibly some modification in the colloids of the brain, which may also be at the base of the parasyphilitic affections. The danger of encephalitis seems to be greater with a second injection of the drug. Fischer adds that the resemblance to anaphylactic phenomena suggests the possibility of therapeutic influencing of the severe cases of encephalitis under these conditions by measures which have proved useful in combating anaphylactic phenomena in experiments on animals, especially the narcotic drugs.

130. **A Fatality After Salvarsan.**—In Kannengiesser's case epileptiform convulsions followed an intravenous injection of salvarsan four months after a subcutaneous injection of the same drug. The patient was a robust butcher of 29. After the convulsions consciousness did not return and the clonic cramps continued with delirium, until death occurred from aspiration pneumonia. The threatening symptoms developed three hours after the injection of salvarsan, but necropsy failed to disclose any satisfactory explanation of the case.

131. **Acute Hemorrhagic Encephalitis After Salvarsan.**—Almkvist reports his one fatality in the 184 cases in which he has given salvarsan. This patient was a man of 32, infected with syphilis in 1905, the primary manifestations soon yielding to mercurial treatment. On recurrence of mild local symptoms in 1910, another course of mercurial treatment was given and in February, 1911, he was given an intravenous injection of 0.6 gm. salvarsan. Symptoms of gastric and brain disturbance became evident the second and third days and at necropsy, six days after the salvarsan injection, the brain showed traces of acute hemorrhagic encephalitis, the blood escaping by diapedesis as in infectious processes. The brain may have been peculiarly sensitive in this patient as he had had much business worry and sought recreation and relief from insomnia in distractions of varied kinds.

137. **Technic for Intravenous Injections.**—Knauer calls attention to the vibratory thrill perceived by the fingers placed on the vein above the point where the injection is being made. If this vibratory thrill from the instreaming fluid is not perceived, the fluid is not entering the vein properly.

Wiener klinische Wochenschrift, Vienna

August 24, XXIV, No. 34, pp. 1207-1234

139 *Heart Disturbances Induced or Aggravated by Purgatives. (Hypodynamia cordis diarrhoica.) W. Jaworski.
140 Rare Defects in Speech. (Einige seltene Sprachfehler und partielle Rhinolalia aperta.) F. Neumann.
141 The Franzensbad Mineral Mud. (Das Franzensbader Eisen-Mineralmoor.) H. Klonka.

139. **Weakness of the Heart After Purging.**—Jaworski calls attention to the aggravation of heart disturbances or their first development in certain cases when attempts are made to relieve constipation medicinally. He calls the condition diarrheic hypodynamia of the heart, and reports five typical cases. They are observed comparatively often in private practice. Besides the loss of fluids in the diarrheic stools, the purge or laxative induces hyperemia and congestion in the abdominal organs and the blood is thus drained away from the skin, muscles and brain and the heart does not have enough blood to pump with. If the heart is in good condition there is no trouble, but if the myocardium is injured from any cause, symptoms of "reflex shock" develop; the external temperature declines; the skin is cool and pale, with more or less general weakness, dizziness, small soft pulse and apex beat, and slight heart sounds or arrhythmia. Treatment should aim to equalize the circulation, with hot-water bottles, nux vomica to contract the intestinal vessels, and strong coffee and tea to dilate the vessels in the brain and periphery. The movements of the intestines should be checked by some opium preparation and transudation into the bowels by some styptic. Persons inclined to weakness of the heart under these circumstances should be warned in particular against a systematic course of the widely advertised purgatives; Jaworski knows of cases in which this led to progressive fatal cardiac insufficiency. The elderly are in greater danger than the young on account of the tendency to arteriosclerosis. With advancing years the inhibiting and regulating influences grow weaker, so that the heart has to depend more and more exclusively on its own myo-automatism. The slightest injury of the myocardium then entails irregular action. He warns further that the same may be said of conditions in the acute infectious diseases in which the heart is suffering from the action of toxins; extreme caution is necessary in ordering purgatives and laxatives in order not to weaken the heart still further. These patients may ask to be purged to get rid of annoying tympanites, but he has often noticed that the face was pinched with other signs of collapse after the drug had operated. It is possible, he adds, that a purge might serve as a test for the diagnosis of latent cardiac insufficiency.

Zentralblatt für Chirurgie, Leipsic

August 12, XXXVIII, No. 32, pp. 1081-1112

142 Ribs as Material for Plastic Operations on Bones. (Die Rippen als Material zur Knochenautoplastik.) W. J. Dobrotworski.
143 *Subcutaneous Silk Drain in Treatment of Hydrocephalus. (Neue Methode der chirurgischen Behandlung der Hydrocephalie.) J. Marimon.
144 Care of Stump After Resection of the Stomach. (Zur Stumpfversorgung nach Magenresektion.) M. Wilms.

August 19, No. 33, pp. 1113-1144

145 *Operative Treatment of Exstrophy of the Bladder. (Operative Behandlung der angeborenen Blasenspalte.) V. Chlumsky.
146 *Camphorated Oil in Treatment of Peritonitis. (Anwendung des 1%igen Kampferöls bei Peritonitis und die adhäsionshemmende Wirkung desselben.) O. Hoehne.

143. **Operative Treatment of Hydrocephalus.**—Marimon aimed to drain the lateral ventricle permanently into the parotid gland which he considers particularly adapted for rapidly taking up the fluid thus emptied into it. He gives an illustrated description of the procedure as applied to an eight-months infant with extreme hydrocephalus, the head measuring 63 cm. in circumference, the eyeballs forced down so that the white sclera alone was visible. The operation induced a marked improvement after its application on one side; vision became normal and the head much reduced by the fifth week after the operation, but then the child succumbed to an intercurrent enteritis. He pierced into the ventricle with a long curved needle forcing it out through the skin below and drawing back the silk drain. The silk was then carried down through the subcutaneous cellular tissue into the middle of the parotid, which required several insertions of the needle. The technic is similar to that of Handley's method of providing new lymph routes in elephantiasis of the limb. The technic is simple but the oozing of cerebrospinal fluid through the needle holes retarded healing. Marimon had intended to apply the same operation on the other side.

145. **Treatment of Exstrophy of the Bladder.**—Chlumsky avoids the tendency to incontinence of the new bladder-wall, when it is formed by transplantation, by leaving to Nature the task of closing the bladder-wall. This insures durable closure. He separates the skin from the mucosa of the bladder and allows it to retract and waits patiently for the healing over of the wound thus made. There thus forms on the operated point a layer of epithelium, free from hairs, whose surface is further enlarged by the fact that the bladder being cut around is pressed forward like an umbilical hernia by the abdominal pressure. He has operated in this way in two cases and the bladder became closed in one and was on the way to closure in the other when the infant acquired bronchitis and the wound tore apart. Chlumsky states that the works on operative treatment of exstrophy of the bladder now number over 179, but the end-results of treatment to date by the usual methods still leave much to be desired. So he thinks there is a future for his simple technic for plastic closing of the bladder which in his successful case resulted in the production in time of a large bladder corresponding entirely to a normal one.

Zentralblatt für Gynäkologie, Leipsic

August 12, XXXV, No. 32, pp. 1145-1176

147 *Prophylaxis of Peritonitis. (Die Technik der anteoperativen Reizbehandlung des Peritoneums.) O. Hoehne.
148 Laceration of the Tentorium in New-Born Infants. (Tentoriumrisse beim Neugeborenen.) A. Bauereisen.
149 *Obstetric Protection of the Perineum. (Zur Dammschutzfrage.) J. Brock.

August 19, No. 33, pp. 1177-1200

150 Prophylaxis of Peritonitis. (Zur Frage der Prophylaxe der postoperativen Peritonitis durch Kampferölbehandlung.) O. Burckhardt.
151 *Pernicious Anemia in Pregnancy. (Die perniziöse Anämie in der Schwangerschaft und ihre Behandlung.) B. Bauereisen.
152 Universal Hydrops in the Fetus. (Zum Hydrops foetus universalis.) R. Teuffel.

August 26, No. 34, pp. 1201-1232

153 Technic for Cultivating Anaerobes. O. Burckhardt.
154 *Sign of Extra-Uterine Pregnancy. (Diagnostisches Zeichen
agenen Graviditas ectopia intra-
155 ı. (Zur Corpus luteum-Bildung
r.
156 t in Stimulating Contractions of
hypophysis als Mittel zur Anregung der Wehentätigkeit.) A. Ross.

146-7. **Prophylaxis of Peritonitis.**—Hoehne refers to the injection of camphorated oil before a laparotomy to induce an aseptic irritation of the peritoneum, and reports remarkably favorable results in over 120 cases. He describes the technic in detail; no anesthetic is required as the blunt needle is inserted through a minute incision, and 30 to 50 c.c. of the 1 or 10 per cent. camphorated oil are injected from one to four days before the operation, in "ante-operative irritation treatment" of the peritoneum, and presents evidence to prove that the reaction thus induced may persist for two weeks or longer, even to seven weeks in one of his cases. According to experience to date, the exudation resulting from the irritation is gradually absorbed and never induces adhesions as long as it is aseptic.

149. **Protection of the Perineum.**—Brock noticed years ago that when the perineum tore during a forceps delivery the laceration corresponded to the blades of the forceps; the pressure from them had reduced the vitality of the tissues, so that they tore at these points. This fact suggested to him that even the pressure of the fingers, while striving to prevent injury during expulsion, may be the very factor which produces the tear. He now teaches always that the perineum should be given time to stretch spontaneously, and the head should be pushed gently back until the maternal soft parts have stretched gradually to their utmost. The accoucheur's hands should not touch the perineum but merely hold back the head, the fingers not curving but spread more nearly flat until the wrist touches the back of the child's head; then, by slightly lifting the chin, the lowest portion of the face can be released. He calls this the passive or expectant method of protecting the perineum, and remarks that while it is far from being ideal, yet it avoids the dangers of the usual methods of pressure on the perineum from without.

151. **Pernicious Anemia in Pregnancy.**—Bauereisen reports two cases of pernicious anemia in pregnant women in which he cured the patients by daily subcutaneous or intramuscular injections of 5 or 10 c.c. of whole blood, seven injections being given in one and five in the other case. He commends this method for its simplicity and advises its wide adoption in general practice. The one yielding the blood sits near the patient; as soon as the blood is taken from a vein in the arm it is injected into the patient when still warm and the spot lightly massaged. The effect seems to be the same as when large amounts of defibrinated blood are used.

154. **Diagnosis of Extra-Uterine Pregnancy.**—Scipiades refers to a case of extra-uterine pregnancy in the broad ligament which had been carried to term. The condition was correctly diagnosed by the asymmetrical location of the tumor and its extension deep into the pelvis, while a cord-like structure could be palpated between the wall of the uterus and the tumor, and the surface of the tumor was smooth and sharply outlined.

Gazzetta degli Ospedali e delle Cliniche, Milan

August 3, XXXII, No. 93, pp. 981-986

157 *Syphilids and Scarlet Fever. T. Silvestri.

August 6, No. 94, pp. 987-1002

158 Diagnosis of Cholera. E. Bertarelli.
159 Importance for Diagnosis and Prognosis of the Mononuclears in the Blood. (La genesi endoteliale dei mononucleati del sangue. Sua importanza diagnostica e pronostica.) V. Patella and D. N. Aperlo.
160 Determination of Tubercle Bacilli in the Stools. L. Cecconi.

August 8, No. 95, pp. 1003-1010

161 Digitalis in Emergencies. (Le iniezioni digitaliche d'urgenza.) R. Massalongo and U. Gasparini.

August 10, No. 96, pp. 1011-1018

162 Research on Stomach Functioning. (Sui metodi di esame della funzione gastrica.) G. Chiabrera.

August 13, No. 97, pp. 1019-1034

163 Epitheliomas Developing on Scars of Burns. (Sopra gli epiteliomi sviluppati su cicatrici da scottature.) E. Amati.

August 15, No. 98, pp. 1035-1042

164 Echinococcus Disease of the Liver. U. Sarri.

August 20, No. 100, pp. 1051-1066

165 *Reflex Phenomena in Gynecologic Disease. (La fenomelogia riflessa nelle lesioni dell'apparato genitale femminile.) L. M. Bossi.
166 *Management of Fracture of the Clavicle. (Un nuovo apparecchio per la riduzione della frattura della clavicola.) C. Zatti.

August 22, No. 101, pp. 1067-1074

167 Collapse Under Stovain. (Collasso grave da stovaina.) O. Ortali.

August 24, No. 102, pp. 1075-1082

168 Vicarious Menstrual Hemorrhage in the Bladder. (Contributo clinico sull'emorragia vescicale per mestruazione deviata.) F. Cuturi.

157. **Syphilis and Scarlet Fever.**—Silvestri has been impressed with the way in which a pre-existing syphilis modifies certain other diseases and affords a favorable soil for the development of tuberculosis, which runs a grave course as a rule in syphilitics. In three recent cases of syphilis in his practice intercurrent typhoid had a particularly rapid and malignant course as also pneumonia and erysipelas in other syphilitics. On the other hand, the syphilis has been favorably modified by an intercurrent scarlet fever in three of his cases, which he reports in detail. In the first a child with severe manifestations of inherited syphilis began to thrive and has been in comparative health since after an attack of scarlet fever at the age of 4; the same was also observed in another syphilitic child. In his third case a man of 45 had long been suffering from severe manifestations in the third phase of syphilis, including disturbances suggesting gastric ulcer. An intercurrent scarlet fever transformed conditions so that after recovery from the latter there were no further disturbances from the syphilis, even the Wassermann reaction having become negative. The intercurrent infection seems to paralyze if it does not destroy the still existent spirochetes.

165. **Reflex Phenomena from Gynecologic Lesions.**—Bossi declares that no woman should be committed to an insane asylum until after thorough examination by a gynecologist, as frequently the mental disturbances are merely reflex phenomena from some curable affection of the genital organs. He reports three typical cases which sustain this view. The chronic tendency to irritability and melancholia or a recurring tendency to mania permanently subsided after operative and other measures to cure inflammation in the uterus or cervix or both, with or without rigidity of the cervix, and, in a fourth case, extreme anteflexion of the uterus with a tendency to atrophy.

166. **Brace for Fracture of the Clavicle.**—Zatti uses a rectangular sheet of metal, about 30 cm. long by 12 wide, bending it up to form a ridge in the center to fit over the spine. The plate is held in place across the back by a starched bandage wound in figure 8 folds seven times around the shoulders and across the back, as he shows in four illustrations. The front of the chest is left free and respiration is promoted instead of hindered, while the fractured bone is effectually immobilized and the patient can rest easily in bed.

Policlinico, Rome

July 30, XVIII, No. 31, pp. 969-1000

169 Hernia from Standpoint of Industrial Insurance. (L'ernia considerata in rapporto con la legge degli infortuni sul lavoro.) S. Diez. Commenced in No. 30.

August 6, No. 32, pp. 1001-1032

170 Alimentary Disturbances in Infants. (I disturbi della nutrizione nel lattante.) R. Fua.

August 13, No 33, pp. 1033-1064

171 Proteolytic Ferments in Stools of Breast-Fed Infants. A. Filia.
172 *Sterilization of Uterus by Hydrogen Dioxid. (La disinfezione della cavita uterina per mezzo delle irrigazioni di acqua ossigenata, nell'infezione puerperale e negl'interventi per raschiamento e per rimozione di residui di aborto.) F. Grandoni.

August 20, No. 34, pp. 1065-1096

173 Mandelbaum's Thread Reaction in Typhoid. (Metodo facile e rapido per la sierodiagnosi del tifo.) V. Zevi and G. Sabatini.
174 Tincture of Iodin in Treatment of Burns. (La tintura di iodio al 2 per cento nelle scottature in genere.) A. Talassano.

August 27, No. 35, pp. 1097-1128

175 Influenza During Pregnancy and the Puerperium. U. Rosi.

August, Medical Section No. 8, pp. 333-380

176 Two Tumors in the Brain. (Osservazioni cliniche ed anatomopatologiche sopra un caso di duplice tumore dell'encefalo.) F. Costantini.
177 The Mechanism of Hearing. (La teoria dell' udizione piu consentanea alla complessa morfologia dell'organo del Corti.) B. Bocci.
178 Post-Tabetic Paralytic Dementia. P. Ciuffini. Commenced in No. 7.

August, Surgical Section No. 8, pp. 337-384

179 Some Rare Tumors in the Peritoneum. P. Sabella. Commenced in No. 7.

172. **Hydrogen Dioxid in Sterilization of the Infected Uterus.**—Grandoni remarks that it was with considerable hesitation that he first used a solution of hydrogen dioxid for irrigation of the infected puerperal uterus, fearing gas embolism from the nascent oxygen. But his experience in a number of serious cases in which this measure was about the last resort, gave unexpectedly favorable results and has con-

vinced him that these fears are practically groundless. The foam from the nascent oxygen does not seem to have force enough to penetrate into the tubes or open blood-vessels. He cites the details of seven cases emphasizing the prompt way in which the conditions in the infected uterus returned to approximately normal. In the cases in which the infectious process was restricted to the uterus, irrigation with the dioxid conquered it at once. Even when the condition was one of true puerperal septicemia, local irrigation with hydrogen dioxid effectually supplemented the intravenous injection of a solution of bichlorid of mercury, according to Baccelli's technic, when conditions were apparently desperate.

Riforma Medica, Naples

August 7, XXVII, No. 32, pp. 869-896

180 Clinical Importance of Relative Arterial Hypertension in Artery of the Foot. (Sul valore clinico della ipertensione arteriosa relativa nella pedidia.) R. Secchi.
181 Sarcoma in Bed of Kidney. (Rarissimo caso di lipo-fibro-sarcoma dell'area adiposa perirenale.) L. Gaiardoni.

August 14, No. 33, pp. 897-924

182 Traumatic Thrombophlebitis and Colon Bacillus Periostitis. G. Carere.

August 21, No. 34, pp. 925-952

183 *Intestinal Lesions from Foreign Bodies. G. Razzaboni.
184 Inflammation of Meckel's Diverticulum and Intestinal Stenosis. C. Rinaldo.
185 Rachitis. (Del rachitismo.) T. Silvestri. Commenced in No. 33.

183. Dangers of Foreign Bodies in the Intestines.—In Razzaboni's case an elderly woman had had an easily reduced femoral hernia for thirty years, when it became suddenly irreducible and painful. Attempts at mild taxis proving ineffectual, herniotomy was done and with apparent success, but in a few hours fecal vomiting developed with other signs of abdominal mischief, soon fatal. Necropsy revealed the presence of two fishbones in the colon which they had perforated at both ends of the bones. He believes that the perforation was the result of his efforts at taxis or during the operation, and warns that the unsuspected presence of a foreign body may singularly complicate an operation for hernia. The case is still another argument against taxis of hernias.

Norsk Magazin for Lægevidenskaben, Christiania

August, LXXII, No. 8, pp. 857-936

186 Inherited Disease in Light of Mendel's Theory. (Arvesygdomme i lys av Mendelismen.) R. Vogt.
187 Suture of Cervical Nerve. (Et tilfælde av nervesutur.) P. E. Giertsen.
188 *Benign Tumors in Stomach Simulating Cancer. (Kræftlignende svulster i mavesaekken.) H. Schilling.

188. Gastric Ulcers Simulating Cancer.—Schilling reports a case of this kind in a man of 55. On opening the stomach the diagnosis of cancer seemed positive and the stomach was resected, but the microscope showed that the very large tumor in the larger curvature, adherent to the transverse colon, was a fibrous connective-tissue growth. But at the same time a minute tumor was found near the pylorus which proved apparently to be a true solid cancer. The patient had cause to rejoice over the mistaken diagnosis as seldom or never has a cancer in the stomach been discovered and removed at such an early stage. Syphilis and tuberculosis are often the cause of supposed malignant disease of the stomach; Schilling operated a year ago on a woman of 30, making a gastroenterostomy on account of a gastric tumor which was undoubtedly of tuberculosis origin, as there was a similar tumor in the cecum and the appendix was found on removal to contain a local tuberculous process. The patient has been clinically cured by the operation. A stomach affected with fibrous induration may also simulate cancer and he adds the history of a case of the kind, the signs of stenosis of the pylorus in a woman of 60 finally compelling resection of the stomach, after which the woman rapidly regained strength and weight. After five years of health symptoms returned and a tumor was found at the point of the anastomosis, simulating cancer, but the microscope revealed merely fibrous tissue. The patient was again restored to health by a further resection, but there was suppuration later in the wound and a fistula into the transverse colon with adhesions, finally compelling a third operation by the end of the year. After an anastomosis excluding the site of the lesion in the transverse colon, the fistula soon healed and the patient has been in the best of health during the six years since.

Hygiea, Stockholm

July, LXXIII, No. 7, pp. 785-908

189 *Comparative Importance of Different Operative Measures for Genital Prolapse. (Om värdet af de olika operationsmetoderna vid genitalprolaps.) F. Westermark.
190 Torsion of the Uterus: Two Cases. J. Olow.
191 Endemic Goiter in Sweden. (Endemisk struma i Husby distrikt.) G. Fjellander.

189. Operative Treatment for Genital Prolapse in Sweden.—Westermark here brings down to date his previous communication on this subject in 1897, when he tabulated the details and outcome of operative treatment by various Swedish surgeons in 140 cases of severe prolapse of the vagina and 456 of the uterus. The figures since that date include 411 cases of prolapse of the vagina and 817 of the uterus. All this material is sifted and the end-results tabulated and compared with the various technics used. Westermark's preferred method of treating prolapse of the uterus by lateral colporrhapy (published in 1892) was applied in 255 cases of prolapse of the uterus; 173 of the patients have been reexamined recently. A recurrence of trouble was discovered in only twelve cases, that is, the operation was entirely successful in 93.1 per cent. The recurrence was generally in the form of a cystocele. The entire statistics compare favorably with those in other lands.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

TICKS. A MONOGRAPH OF THE IXODOIDEA. By George H. F. Nuttall, M.A., M.D., Ph.D., Fellow of Magdalene College; Cecil Warburton, M.A., F.Z.S., Christ's College; W. F. Cooper, B.A., F.Z.S., F.L.S., and L. E. Robinson, A.R.C.Sc. (Lond.), of the Cooper Laboratory for Economic Research, Watford. Part II by George H. F. Nuttall and Cecil Warburton. Price, 12 shillings net. Pp. 105-348, with illustrations. May, 1911. Bibliography of the Ixodoidea by George H. F. Nuttall, F.R.S., L. E. Robinson and W. F. Cooper, Price, 6 shillings net. Pp. 67. July, 1911. Paper. Cambridge. University Press, 1911.

PRACTICAL PATHOLOGY. A MANUAL OF AUTOPSY AND LABORATORY TECHNIC. FOR STUDENTS AND PHYSICIANS. By Aldred Scott Warthin, Ph.D., M.D., Professor of Pathology and Director of the Pathologic Laboratories in the University of Michigan, Ann Arbor. Second Edition. Cloth. Price, $3. Pp. 321, with 55 illustrations. Ann Arbor: George Wahr, 1911.

REASON AND SENTIMENT. An Address Delivered in the Aula of the University of Berne, March 3, 1910. By Dr. Paul Dubois, Professor of Neuropathology at the University of Berne. Authorized Translation by Edward G. Richards. Cloth. Price, 50 cents net. Pp 82. New York: Funk & Wagnalls Co., 1911.

TECHNIK DER THORAXCHIRURGIE. Von Dr. F. Sauerbruch, Professor, Direktor der Chirurg. Universitätsklinik Zurich und Dr. E. D. Schumacher, Privatdozent, Assistent an der Chirurg. Universitätsklinik Zurich. Cloth. Price, 24 marks. Pp. 97, with 73 illustrations. Berlin: Julius Springer, 1911.

PROCEEDINGS CONFERENCE ON MILK PROBLEMS UNDER THE AUSPICES OF THE NEW YORK MILK COMMITTEE, Dec. 2 and 3, 1910. At Assembly Hall, United Charities Building, New York. Paper. Price, $1. Pp. 200. New York: New York Milk Committee, 105 E. Twenty-Second Street, 1911.

MINNESOTA MUSHROOMS, BOOKLET IV OF MINNESOTA PLANT STUDIES OF UNIVERSITY OF MINNESOTA, MINNEAPOLIS. By Frederic E. Clements, Professor of Botany and State Botanist. Paper. Price, to Citizens of Minnesota, free; to Others, 50 cents. Pp. 169, with 124 illustrations.

HOW TO BE HEATHY. By J. Halpenny, M.A., M.D., Surgeon to the Winnipeg General Hospital, and Lilian B. Ireland, Manitoba Normal School. Cloth. Price, 50 cents. Pp. 242, with illustrations. Toronto: Educational Book Co., (1911).

AUTO-INOCULATION IN PULMONARY TUBERCULOSIS. By Marcus Paterson, M.B., B.S., M.R.C.S., Medical Superintendent at Brompton Hospital Sanatorium, Frimley. Cloth. Price, 21 shillings. Pp. 236. London: James Nisbet & Co., 1911.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES. Proceedings of the Twenty-First Annual Meeting, held in Chicago, Feb. 27-28, 1911. Paper. Pp. 94. Fred C. Zapffe, Secretary, Chicago.

TWENTY-EIGHTH ANNUAL REPORT OF THE BOARD OF TRUSTEES. SOLDIERS' HOME IN MASSACHUSETTS AT CHELSEA FOR THE YEAR ENDING JUNE 30, 1910. Paper. Pp. 70. 1910.

REPORT OF THE BOARD OF HEALTH OF THE CITY OF SALEM TO THE CITY COUNCIL, DECEMBER, 1910. Paper. Pp. 31. Salem, Mass., 1911.

NORSK MEDICIN I HUNDRED AAR. Ved S. Laache. Paper. Pp. 289, with illustrations. Kristiania: Steen'ske Bogtrykkeri, 1911.

The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees

Vol. LVII, No. 15 Chicago, Illinois October 7, 1911

RESECTION OF THE POSTERIOR ROOTS OF THE SPINAL CORD

WITH THE REPORT OF ONE CASE AND CITATION OF OTHER CASES AS A BASIS OF INQUIRY INTO THE COURSE OF THE SENSORY PATHWAY *

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To provide a suitable introduction to my subject, the following case is outlined:

History.—Mr. X. was first seen by me Dec. 24, 1908. He was 50 years of age, married, and the father of four living, healthy children. His father, who had been previously rheumatic, died at 82 of old age. His mother died of syncope at 64. He has one brother who is healthy and well except that he is an asthmatic. There are no nervous or mental troubles, tuberculosis, or malaria in him or his family. He was never nervously ill.

In 1881, when 26 years old, he was circumcised, and he may have had syphilis at that time, but the history of it is uncertain, and there were no demonstrable evidences of lues at the time of his first examination, in 1907. His habits have always been temperate and his bodily functions normal.

In 1891, or sixteen years before his visit, twitching began in his right forearm on the radial side. Later there was a dull ache in the same region, followed by shooting pains, spreading through the arm, involving the right arm and shoulder, and extending into the dorsal side of the head of the radius, and later centering at two main points, the thenar eminence and the lower attachment of the deltoid about the superficial aspect of the musculospiral nerve. Not infrequently the right scapula was the seat of pain. The pain-seizures were paroxysmal, and grew in frequency and severity, and they were apparently more or less influenced and aggravated by changes in the barometer.

In 1903, his pains became so severe that his musculospiral nerve was stretched; but not even temporary relief followed this operation.

Examination.—He came to Minneapolis Dec. 24, 1907, and exhibited during his visit here marked evidences of paroxysms of pain. He clutched wildly at his thenar eminence and at a point below the deltoid and behind the shoulder. These paroxysms recurred every day at short intervals during the day, but were less noticeable when his attention was diverted. He had no anesthesia of the shoulder, arm, forearm, or hand, nor in any other part of his body. His pupils were small, almost pin-points. *The right pupil was smaller than the left, irregular* in outline, and reacted slightly to light. His vision was myopic. These two symptoms, shooting pains and pupillary changes, justified the diagnosis of high tabes, made by his physicians, Drs. Frank Fry and William Graves, of St. Louis, who had had him under observation for years. A celebrated Scottish neurologist had made a diagnosis of neuromata of the cervical spinal nerves.

The reflexes, deep and superficial, of the arms, trunk, and legs, were normal. The station and coordination were good, and he had no ataxia of the arms or legs.

The few symptoms that were present made the diagnosis difficult, other than that a central cord lesion was probable.

Operation.—As he had been thoroughly medicated by mercurials and iodids he was told that there was one course open *to him, namely, a sectioning of a trunk nerve in the neck*, or laminectomy and posterior root section. The former operation was chosen, and a large connecting trunk, presumably between the fifth and sixth cervical nerves, was sectioned in the neck Jan. 8, 1908. Relief from pain and spasm was immediate, and he was reasonably comfortable for a few months. Gradually the paroxysms of pain returned, and he came again for relief. *Jan. 23, 1909, he was operated on by Drs. H. W. Jones and* A. S. Hamilton. An unilateral laminectomy was performed on the right side by cutting through the laminæ and exposing the cord with the roots from the lower half of the cervical segments. The dura was incised and the spinal fluid allowed to escape slowly. The incision was enlarged and the sensory roots of the fifth, sixth and seventh cervical nerves were raised on a hook with great care so as to include all of the fibers. The roots were then grasped with compression-forceps and resected, cutting them where they emerged from the cord and as near their emergence from the dura as possible. It was thought that all of the strands were exsected. The dura was closed with catgut, and the skin was closed with subcuticular silkworm gut.

Greatly to our disappointment and to the astonishment of the patient, he waked from his anesthetic in pain and agony and without a clearly defined area of anesthesia. A map of the usual distribution of peripheral sensory nerves was used as a basis of comparison, but the patient failed to verify the outlines on the map. By careful investigation we thought we discovered a change in sensation, but in a few days the arm had regained its natural sensitiveness. If there was any change in sensation at any time following the operation it was so slight as to be considered unreliable. The patient recovered from the operation, and his cervical spine was in no way impaired, but the paroxysms of pain increased in frequency and severity. He returned home, and during the spring and summer he suffered great pain, and was forced to use opiates.

Second Operation.—He went to St. Mary's Hospital, at Rochester, Minn., and was operated on by Dr. C. H. Mayo, Aug. 11, 1909. The unilateral laminectomy was repeated, and the sensory roots of the fourth and eighth cervical nerves were exsected. Dr. Mayo thought at the time of this operation that there remained a few filaments from the fifth, sixth and seventh nerves, which had been previously removed. This seems hardly likely, as the operation was done with the greatest care. *At all events, a marked anesthesia* should have followed the root section. The relief from pain after Dr. Mayo's operation was marked within a few days. The arm lost its spasticity and became more or less useless; and the right leg dragged, probably due to a superficial injury or hemorrhage into the substance of the cord.

The patient writes me under date of June 2, 1911, as follows:

"*I am free to say that, although I was relieved from the* terrible condition I was in, I am in anything but a satisfactory condition at present. My walking is impaired and the right leg has never entirely regained its power or control, and I

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* Chairman's Address before the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

> tire very quickly. There is a lack of sensation in the toes of the right foot; but that does not inconvenience me to any considerable extent. There has been quite a loss of sensation in the right shoulder and arm, especially along what I should call the top of the arm to the thumb, forefinger, and second finger, but there is always a terrible tension in the arm, especially in the forefinger. At times it almost seems as if the filaments would be drawn from the finger. I cannot describe it otherwise. When a change of the atmospheric conditions is approaching I feel it very severely, the throbbing and twitching of the hand being especially acute. On the lower outside portion of the arm (in a line with the point of the elbow) the sensation is not nearly so acute. I cannot use the arm, except to shake hands or to carry a light weight, such as an umbrella, and I might say that I have to make my arm do that and watch it while it is being done. At the back of the collar bone, at the foot of the incision of the operation of 1908, I have a sensation as if a hot iron were being pushed in there, and my neck muscles become rigid. As a matter of fact, I do not think the nerves are any more dead in the arm than they were before the operation, but, as I have said before, I have received considerable relief from the last operation. Unfortunately, on account of my lack of strength I cannot take much exercise, so have increased in weight to an uncomfortable degree. Prior to 1908 I never weighed over 172 pounds and before the operation at Rochester, in August, 1909, I weighed 135 pounds. To-day I weigh 195, and my weakness makes it hard to carry this weight.
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> "In closing, I wish to say that if anyone in a condition similar to mine should ask my opinion, I would strongly urge him to avoid the knife. This may seem ungrateful, but while I suffered terrible pain, I had the strength to carry and use my arm. . . .
>
> "One thing I overlooked; at night I sometimes never move from lying down to getting up, but when the time comes to rise it is hard to get turned around and get up. My nerves strain me, and I almost feel as if I should become disjointed. The same condition occurs on a smaller scale if I have been sitting for a half hour or so. I might also add that when the atmospheric condition changes, the weight of my arm increases as if I were carrying a heavy weight on my shoulder. This is as near as I can describe my condition at present."

This case is only one of many reported in this country and abroad, in which an operation has been employed for the relief of pain, spasticities, athetosis, post-hemiplegic contractures, spastic paraplegia, and gastric crises in tabes.

To Dr. C. L. Dana of New York belongs the credit for this operation, and the first of its kind in this country was done by Dr. Robert Abbe, Dec. 31, 1888. Mr. Bennett, a London surgeon, under the direction of Sir Victor Horsley, operated on a similar case seven days before Dr. Abbe's operation. These episodes led to much open discussion, and the claims for priority of operation have never been definitely settled, but it has been conceded by other writers that the principles of the operation were first enunciated by Dr. Dana.

Förster, a Breslau surgeon, in 1908, wrote a very exhaustive treatise on root-section operation from its theoretic, as well as its practical, aspects, and he emphasized its usefulness in spasticities and athetosis. He reported five patients operated on by Tietze, one of whom was a girl of 11 years with painful spasms and nearly complete paraplegia following a tuberculous spondylitis. The third and fifth lumbar and second sacral roots were divided on the left side, and the third lumbar and first sacral on the right side. The relief from spasm and pain was decided, and there was improvement in locomotion. No disturbance of sensation followed the operation.

Chipault and Demaulin, in 1895, in the *Gazette des hôpitaux*, have contributed cases and literature.

Dr. Morton Prince in *Brain*, spring, 1901, records the section of a posterior spinal-nerve root for the relief of pain in a case of neuritis of the brachial plexus, following a Colles' fracture of the left wrist, in which there was absolute paralysis of nearly the whole left arm and reaction of degeneration, atrophy, and pain in the thumb and forefinger. Evidently the roots of the fifth, sixth and seventh cervical fibers were most severely injured. However, of these three the fifth and sixth suffered the most. The man was operated on three times; first the radial nerve was stretched; later, two other operations on nerve trunks were done. Before the operations there was anesthesia over the deltoid distribution and over the little, the ring, and one-half of the middle finger. This may have been due to one of the operations or to an extension of the neuritis. A laminectomy was done which produced a cessation of pain in the fore-arm. Later, a Brown-Séquard's paralysis developed, and still later there was a partial return of sensibility. The fifth, sixth and seventh cervical spinal roots were divided, and an absolute loss of sensation for touch and pain followed, limited to the whole thumb with its ball, the back of the hand, and a strip along the radial aspect of the forearm and arm. The palmar surface of the forearm and middle fingers and the region generally given to the sixth root were not anesthetic.

Dr. George W. Jacoby[1] recorded cases of posterior nerve-root section which were more or less benefited, and pointed out the dangers of a Brown-Séquard paralysis.

Abbe[2] records a case of intractable brachial neuralgia in which nerve-stretching and amputation had been done by another surgeon, and in which Dr. Abbe finally made an intradural division of the posterior roots of the sixth, seventh and eighth cervical nerves with improvement. During this operation an electrode was applied to the sixth nerve root, which caused contraction of the supraspinati and infraspinati, brachialis, latissimus dorsi, pectoralis major, teres, and deltoid. In this case the first operation consisted of dividing roots outside the dura. Pain was present on awakening. Forty-eight hours later, and without an anesthetic, the surgeon made an intradural section of the seventh and eighth roots, but the same kind of pain continued that he had had previously. An application of a blunt instrument to the posterior columns caused intense and widely distributed pain. After the final operation, the pain gradually ceased, and there was general improvement, with some anesthesia over the outer side of the arm from the deltoid downward across the neck in front to the center of the clavicle and behind to the center of the scapula. A degenerative neuritis was established by the microscopic findings. Seven or eight years after the operation the patient complained of drawing pain in his stumps with anesthesia as before over the deltoid. He resumed the morphin habit, which he had contracted early, so that the quality of pain could not be accurately estimated. Abbe records another case of spastic paraplegia with pain in the left leg and recurring muscular spasms. The four posterior lumbar roots and the upper sacral roots were divided. Pain disappeared, and anesthesia developed early, but the sensation returned. The patient died of apoplexy on the twelfth day.

Drs. Frank R. Fry and Sidney I. Schwab[3] of St. Louis reported a case of laminectomy for postsyphilitic nerve-root pain. A laminectomy of the third, fourth and fifth dorsal vertebræ exposed the cord, and after releasing the adherent dura, the fourth and fifth dorsal roots were severed. There was no opportunity to observe the presence or absence of sensation, as the patient died in a few hours. He was relieved of pain, however, during his conscious state.

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[1] Jacoby, G. W.: New York Med. Jour., Aug. 3, 1907.

[2] Abbe: Tr. Med. Soc. New York, February, 1889.

[3] Fry and Schwab: Jour. Nerv. and Ment. Dis., August, 1910.

Dr. John J. Thomas of Baltimore records a case of resection of the dorsal spinal nerve-roots for gastric crises in tabes with successful outcome.

Dr. Philip Coombs Knapp of Boston reports a case of tabetic pain in which Dr. Blake divided the seventh, eighth, ninth and tenth dorsal roots, with only temporary relief.

Dr. D. I. Wolfstein of Cincinnati records a case in which four roots in the dorsal region were divided for pain. There was an area of anesthesia corresponding to the definite root-areas, but no diminition of pain in these areas.

Dr. Charles H. Frazier[4] reports three cases in which he operated for spasticity and athetosis. The first patient was greatly relieved, and the second improved as to spasticity and athetoid movements, although of cerebral origin. The third case of spastic paraplegia was one in which the third and fifth lumbar and first sacral roots were divided on both sides. The spasticity was improved without loss of touch and pain sensation.

Dr. Spiller,[5] in 1905, advocated resection of the posterior roots for the relief of spasticities.

Frazier and Spiller[6] report one case.

Dr. Alfred S. Taylor of New York, who is an advocate of unilateral laminectomy, has, up to this time, performed seventeen operations, five of which were for pain.

Case 1.—The eighth cervical and first dorsal sensory roots were cut and the pain relieved over the distribution of the first dorsal.

Case 2.—Gastric crises in tabes. The seventh to the tenth dorsal roots were cut on both sides with prompt relief.

Case 3.—In a boy with painful spasms in the arm occurring every few moments, the upper half of the sixth and all of the seventh and eighth cervical and first dorsal roots were cut. Complete relief of pain and spasm was experienced, but some stiffness remained.

Case 4.—A simple laminectomy was performed without root-section, the patient experiencing much benefit.

Case 5.—Gastric crises with tabes. The seventh to tenth dorsal roots on both sides were cut. The results were uncertain, as the patient had been a morphinist and complained of severe pain after the operation.

Case 6.—A spastic and painful leg. The fourth and fifth lumbar and first sacral and part of the second sacral roots were sectioned on both sides, and relief obtained.

Dr. Charles A. Elsberg and his assistant, Dr. Beer, of the New York Neurological Institute, have cut the posterior spinal roots nine times during the past two years. In five of the patients, the operation was done for spasticity. There was great improvement in three of these patients, but only temporary improvement in the remaining two. In a case in which there had been an unsuccessful search for a spinal tumor by another surgeon three months before and which was later diagnosed as a case of lateral sclerosis, a double laminectomy was performed in July, 1910, for section of the posterior roots on both sides. The third and fifth lumbar and first sacral roots were cut, with the result that there was a marked relaxation of spasticity in the lower extremities for four weeks, and then a gradual return of spasticity in both lower extremities, with marked hyperesthesia over an irregular area,—the entire foot over the back and front and about two-thirds of the leg. This hyperesthesia did not follow the lines usually mapped out as supplied by the fifth lumbar root. There were no sensory disturbances following the operation. Death followed four months later from exhaustion. The autopsy showed a spinal tumor in the dorsal region.

Of the two last-mentioned patients, Patient 4 was operated on because of an old hemiplegic spasticity with athetosis. This patient's spastic upper extremity was much relaxed for about one month. Then the spasticity began to return and after six months was as marked as before the operation.

In the fifth patient, in whom only two roots were cut by Dr. Beer, some sensory loss was observed after the operation, much to the surprise of the operator.

Posterior-root section was done four times on account of pain. One patient had an infiltrating fibrolipoma of the cauda equina, which could not be removed. As she had suffered severe pain in the distribution of the fifth lumbar posterior root, it was divided on the left side, and she was entirely freed of her pain by root section.

In the second patient, in whom root section was done for pain in her upper extremity from a chronic spinal meningitis, a section of one-half of the seventh cervical, eighth cervical, and first dorsal produced sensory disturbance following the operation, and relief was not obtained from the sectioning.

In the third patient, a section of all of the posterior roots going to the left upper extremity was made for relief of the excruciating pain in an amputated extremity. An amputation of the wrist had been done for sarcoma of the hand, and a second amputation was done by a surgeon in an attempt to relieve the neuralgia which followed the first amputation. The pain in this case was not relieved by the section of the posterior roots.

In the fourth case several posterior roots were cut, among them the eighth and ninth dorsal, in order to relieve severe root pains, the origin of which could not be determined. No relief was obtained by the patient; and no anesthesia was noted after the operation. None of these cases died from operation.

The one case I reported is a fair illustration of the difficulties in making a correct diagnosis in intractable painful conditions. The differentiation between a peripheral nerve-trunk disease, tabes, and a painful impression from cerebral disorder is not always possible. This case creates, as do other cases similar in their symptomatology, a hesitancy in accepting the former conception of the sensory paths in the spinal cord.

The model diagrams compiled by many investigators are evidently subject to modification in different individuals, and it is fair to assume that the segments of the cord do not invariably preside over definite skin or muscle areas; neither can one be sure that two, or even three, segments contain the landing-stations for representation in the skin. In many of the cases reported in which excision of several posterior roots was done for pain or spasticity, anesthesias that correspond to old or recent diagrams failed to develop. One must expect any sort of surprise after posterior-root section: an unusual anesthesia, a slight approach to loss of sensation, a temporary but uncertain modification of sensation that is suggestive of the usual lines of distribution, a hyperesthesia perhaps, or no disturbance of sensation

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[4] Frazier, C. H.: Jour. Surg., Gynec. and Obst., New York, ii, No. 1.

[5] Spiller: Jour. Nerv. and Ment. Dis., May, 1905.

[6] Frazier and Spiller: Univ. Penn. Med. Bull., January, 1910.

whatever. The distribution attributed to certain nerve-roots is unreliable, as evidenced by my case and other cases already cited, and shows that, in certain individuals at least, the sixth cervical does not always receive sensory impression from the radial side of the hand and arm. The argument is advanced that in these operations the posterior roots are not thoroughly severed, but this criticism is not just and casts discredit on a skilled operator or observer. We might better admit that sensory impulses are received by the spinal cord through many segments and that the sensory pathway into the cord from the periphery is split up into many parts.

We may also be forced to admit that the pathway in the cord is not as uniform as we formerly held; that fibers for various sensations are scattered widely and have more than one representative column.

Karl Petren,[7] in an analysis of 96 cord injuries, shows that the sense of touch is represented in the posterior column of one side of the cord and in the lateral columns of the opposite side. This may explain, in a measure, why sensation is not always impaired or lost when posterior roots are sectioned. Dana holds that some of the sensory tracts, notably of pain and temperature, are located in the deep white tracts of the cord in front of the crossed pyramidal bundle. It is not improbable that the sensory pathway in the spinal cord is crossed and recrossed in its upward approach to the cortex and that this intricacy of lacing fibers may be so involved that it is impossible to determine accurately segmental receiving stations. Take, for example, the frequent failures to relieve permanently spastic muscles by root-section, granting also that the motor tracts are involved. In some of the cases reported, improvement lasted only from one to six months. Is the return of the spasm due to a repair or regrowth of the cut sensory roots, a condition emphatically denied by investigators; or may we assume that other segments, like collateral blood-vessels, take up the function of its injured neighbor; or are sensations conveyed into the cord by sensory fibers running in motor roots; or shall we go higher and consider the cortex of the brain and its memory of painful impressions?

Sherington has shown that cutaneous zones do not correspond numerically with the course of the ribs, but are, in general, much lower, and that each spinal root contributes fibers to several peripheral sensory nerves; yet the territory covered by a single root is never a patchwork, but an area.

Zabinski, in a case of ascending neuritis of one arm on which many operations had been performed, finally made an intradural section of the sixth, seventh and eighth cervical and the first dorsal and secured immediate relief from pain, which returned slightly in the second week and was accompanied by anesthesia up to the middle of the arm. This case proved the correctness of the old diagrams.

Abbe and Dana, following Féré's tables, have worked out the areas supplied by the sixth, seventh and eighth cervical nerves in relation to muscles and sensation. The sixth cervical supplies the latissimus dorsi, deltoid, teres major, pectorales, and the supra- and infraspinati; and it also carries sensation from the outer part of the shoulder, arm and forearm, and the radial distribution in the hand. The seventh cervical supplies the rhomboid, pectorales, latissimus dorsi, pronators, and triceps, and supplies sensation to the radial side of the forearm and hand.

The eighth cervical supplies the pronators, pectorales, flexores carpi et digitorum, hand muscles and triceps, and supplies sensation to the forearm and hand, and the ulnar and median areas.

The first dorsal supplies the flexores carpi et digitorum, pectorales and intercostohumerals.

No investigator has been able to divide the tracts in the cord that convey touch, pain or muscle-sense for the reason advanced earlier in the paper, namely, that these tracts are so scattered through the white substance of the cord that to separate them is impossible.

In some cases of intractable pains wherever located, we are obliged to fall back on the generally accepted theory that memory pain is the only possible explanation. In some of the cases cited and reported where pain has continued after an operation we are unable to advance any acceptable theory other than that the sensory cortex or other gray ganglia in the brain is the seat of the pain. A painful impression is permanently lodged in the centers of consciousness.

The following conclusions are for consideration:

1. Old and new chartings of sensory areas are variable and unreliable.
2. Each individual, according to circumstances, has an individual center for pain.
3. The segments in the spinal cord follow no definite order except when gross lesions are present, and even here we may be in error.
4. When the posterior roots are sectioned for pain, it may be necessary to divide more than three, perhaps as many as five roots, to accomplish relief.
5. In some instances, it is advisable to section one-half of several roots, or alternate roots, to abolish or diminish pain and spasm.
6. If this order is followed, there is less likelihood of disagreeable results, such as helplessness from greater or less loss of voluntary control.
7. Allow the patient to come out of the anesthetic and reopen the wound for further root section, in case pain persists.

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ABSTRACT OF DISCUSSION

Dr. H. N. Moyer, Chicago: In view of the fact that operations have been recommended for root pains and that the symptomatic criteria for operations in these cases are still uncertain, we are indebted to Dr. Jones for a timely discussion of this subject. It is obvious that the difficulty is one of diagnosis; if the section of the root is made peripheral to the lesion, relief cannot be hoped for, and it is the indefiniteness of localization of sensory root lesions that makes an operation of this character uncertain, and should lead us to prefer other methods of relief where possible. During the last six months at the Cook County Hospital we have been treating tabetic root pains by the injection of cacodylate of sodium into the spinal canal, a method proposed by Dr. Heym. During the past six months we have injected upwards of thirty cases. In most of them there has been a prompt relief of pain; in one case of tabes involving the upper segments of the cord, the relief was quite as prompt as in the others in which the tabetic involvement was lower down. No untoward complications have followed the injections. In making them we use the ordinary technic for lumbar puncture, but allow just enough spinal fluid to escape to show that the needle is in the spinal canal.

Dr. W. W. Graves, St. Louis: I had the privilege of seeing the case reported by Dr. Jones, and was very much interested at the time because of the diagnostic problems involved. The individual had suffered for many years from pain and I unhesitatingly made the diagnosis that Dr. Fry had made before, that this was a case of tabes. This diagnosis was founded on unusually small and irregular pupils, which did not react well to light, on sensory loss about the legs, about the chest, and a slight sensory loss—at least I found it so—about the outer surface of the arms and in the distribution of the fifth and sixth cervical roots; not any more on the right side, where he had so much pain, than on the left. The peculiar problem in the case was that this individual who appeared to suffer from intolerable pain during the day could lie down at night and sleep without narcotics. So that I regarded this pain as partly "attention pain." Perhaps he did have true brachial crises at times; but I believe that which he called pain was not actually pain dependent on a definite lesion, but rather on some sort of a psychical process—undue "attention"—with which we are all familiar in certain cases. The individual was able to sleep and he could be diverted from his pain during the course of the examination. I put the patient to bed, isolated him, diverted him as much as I could from his trouble, gave him large doses of mercury, because he had never had a thorough systematic course of treatment, and he showed very decided improvement. After keeping him under observation for about five or six months, he went to Scotland and he wrote from the steamer that he had not been so free from pain for fifteen years and he expected to return to St. Louis practically well. The pain persisting the way it did after the nerve root section by Dr. Jones seems to me to substantiate the diagnosis that this pain was not due to a definite root lesion.

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[7] Petren, Karl: Arch. f. Psychiat. Nervenkrankh., 1910, xlvii,

Now, I should just like to add a word about the application of nerve root sections in spastic states. Last October during the meeting of the German Neurologic Society in Berlin I saw results obtained by Foster's operation and the results achieved along that line are remarkable. In children who had never been able to walk or make any voluntary or purposeful movements with their legs, after relieving the spasticity by root sections and after training, those children were able to get around and get a great deal of use of their legs. As to the use of nerve root section for the relief of pain, I agree with Dr. Moyer that we shall resort to such serious operations less and less as time goes on.

Dr. Albert Abrams, San Francisco: As far as the localization of spinal root pain is concerned, there is one diagnostic point which has afforded me great service, and that is, if one takes the tender points peripheral to the supposed site of the lesion, and manipulates them by traction, pressure, or whatever the process may be, areas of tenderness develop at the vertebral exits of the spinal nerves which are segmentally related to the peripheral areas of sensitiveness, and if the vertebral areas of tenderness are frozen, the pain peripheral to the site of lesion disappears. All the *pointes douloureux* disappear.

Another point is to establish the site of lesion, whether peripheral or central to the exit of the spinal nerve. This fact can be readily determined by freezing; the pain disappearing if the lesion is at, or peripheral to the vertebral exit. Recently, freezing has been recommended for the relief of intractable pains incident to an attack of herpes zoster, and it has been said that there is nothing so specific for this condition. This method I recommended twenty years ago, and I found it in the majority of instances absolutely useless, for the reason that the seat of the lesion is in the spinal ganglia, that is, central to the exit of the spinal nerve roots. If, however, the lesion be at the vertebral exit of the nerve, all the pains are relieved. That is the reason why in tabetic patients we find little or no relief following congelation. Lately I have used injections of anesthetic medicaments at the spinal nerve exits for the purpose of determining whether by this means I could definitely decide whether the seat of the lesion was peripheral or central to the nerve exit. Thus far I have not arrived at any definite conclusion respecting the latter investigation.

Dr. E. D. Fisher, New York: A number of cases have been presented before the New York Neurological Society of section of the posterior spinal nerve roots, in cases of spastic paralysis, either of cerebral or of spinal origin by Drs. Taylor, Clark and Ellsburg. Most of these patients have done fairly well. Of course the class that I am now referring to has nothing to do with pain. Some of them have been returned to the society for observation six months or a year and a half afterwards. There is, however, only a limited degree of improvement.

One feature we have to deal with in that class of cases is that there is some mental impairment, and when we try the educational plan in such cases we are not so successful as we might otherwise be. I believe, however, in the operation for these spastic cases, but we must be particular in choosing them. In the conditions of pain I have found that it is more beneficial, as has been suggested, in the peripheral type. Tabetic pains or tabetic conditions, such as the gastric crises, and so on, have not been as successfully treated by these methods as the cases of a peripheral neuritis, and even in that class I would certainly advise all other forms of treatment first.

I will refer to one case, a patient who had spastic hemiplegia, in which the condition was so extreme that he preferred to have his hand removed to the continuance of the spasm. Following the operation neuromas formed on the ends of the nerves. They were removed but again returned. Several operations were performed, until the arm was removed at the shoulder-joint at the third or fourth operation. The pain again returned. The brachial plexus was then removed. The final operation was the section of the posterior spinal nerve root which resulted in permanent recovery, except that at times the man had pains which we thought were psychical rather than actual. This is the position which resection of the posterior nerve roots is in to-day. It seems necessary at times to resect four of the spinal nerve roots if we are to get the results that we wish, or even to get anesthesia following the operation.

PATHOLOGIC FINDINGS IN HYPERTENSION*

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During the last ten years much has been written on the subject of blood-pressure and hypertension. Most of the work has been based on clinical findings; comparatively little has been done in the way of following cases to the autopsy table. There are, of course, grave objections to drawing deductions from a comparative study of blood-pressure determinations taken shortly before death and the pathologic lesions found at autopsy. At the same time it seemed that the study of a group of cases which had been followed to the autopsy table might be of interest.

All observers are agreed in regard to the frequent occurrence of hypertension in nephritis. Cushing[1] and others[2, 3] have shown that high blood-pressure occurs in cases with increased intracranial pressure. The chief discussion has been directed toward the question of the occurrence of hypertension in arteriosclerosis independent of a nephritis. Sawada[4] has never seen a case of hypertension over 170 in simple arteriosclerosis. Romberg[5] considers that persistent high blood-pressure in a suspicious case establishes the diagnosis of chronic interstitial nephritis.

The material reported in this paper consists of the pathologic findings in every case showing a systolic blood-pressure of over 160 in life which has come to

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

1. Cushing, H.: Bull. Johns Hopkins Hosp., 1901, xii, 290.
2. Eyster, Burrows and Essick: Jour. Exper. Med., 1909, xi, 489.
3. Robinson, G. C.: Arch. Int. Med., May, 1910, v, 483.
4. Sawada: Deutsch. med. Wchnschr., 1904, xxx, 425.
5. Romberg: Kong. f. Inn. Med., 1904, ix, 17.

PATHOLOGIC FINDINGS IN FIFTY-THREE CASES OF HYPERTENSION

Number	Autopsy No.	Sex	Age	Systolic Blood-Pressure		Number of Determinations	Period of Observations	Heart Wt. (gm.)	Combined Kidney Wt. (gm.)	Albumin *	Casts	Average Specific Gravity	Chronic Passive Congestion	Edema	Clinical Diagnosis	Anatomical Diagnosis
				Maximum	Minimum											
1	1851	M.	46	185	170	2	5 weeks.	455	123	V. S. T.	Many.....	1010	0	0	Chronic nephritis; arteriosclerosis......	Chronic interstit. neph.: arteriosclerosis.
2	1854	M.	39	210	...	1	5 days..	740	200	S. T....	None......	1007	0	0	Chronic nephritis; arteriosclerosis; uremia	Chronic interstitial nephritis.
3	1996	M.	65	200	200	3	16 days..	630	187	S. T....	Occasional.	1016	0	0	Chronic nephritis; arteriosclerosis......	Chronic interstit. neph.; arteriosclerosis.
4	2016	M.	39	215	190	2	19 days..	491	212	S. T....	Few......	1010	0	0	Chronic nephritis; uremia...............	Chronic glomerulo-neph.; arteriosclerosis.
5	2027	F.	43	225	225	2	14 days..	447	215	S. T....	Numerous.	1014	0	0	Cerebral hemorrhage; cardiorenal disease.	Cerebral hemorrhage; arteriosclerosis; arteriosclerotic nephritis.
6	2050	M.	46	190	...	1	8 days..	541	319	S. T....	Occasional.	1018	+	+	Chronic nephritis; alcoholism..........	Subacute glomerulo-nephritis; verrucose endocarditis; aortic and mitral valves.
7	2058	M.	68	165	135	13	13 weeks.	390	272	S. P. T.	Numerous.	1019	+	+	Stokes-Adams disease..................	Arteriosclerosis; chronic interstitial nephritis; calcification -bundle His; fibrocalcareous endocarditis aortic valve.
8	2062	M.	42	165	...	1	19 days..	...	...	L. T....	Few......	1013	0	0	Pyonephrosis; renal calculus; uremia...	Pyonephrosis; renal calculi; chronic glomerulo-nephritis.
9	2066	M.	49	185	...	1	24 days..	423	313	S. P. T.	Few......	1014	0	0	Plumbism; lobar pneumonia............	Arteriosclerosis; slight lobar pneumonia; chronic interstitial hepatitis (slight); arteriosclerotic nephritis (slight).
10	2086	M.	30	200	140	3	9 weeks.	520	300	T.	Many.....	1024	+	+	Intra-cardiac thrombosis	Intracardiac thrombosis.
11	2132	M.	73	200	...	1	1 day...	370	120	....	....	....	0	0	Arteriosclerosis; chronic nephritis......	Arteriosclerosis; aneurysm of aorta; chronic interstitial nephritis.
12	2175	F.	45	225	190	3	2 weeks.	363	122	T.	Rare......	1008	+	0	Chronic glomerulo-nephritis; uremia....	Chronic glomerulo-nephritis; slight arteriosclerosis.
13	2200	F.	72	225	185	5	10 days..	527	121	S. T....	Numerous.	1012	+	+	Chronic contracted kidney.............	Arteriosclerosis; chronic interstitial nephritis.
14	2256	F.	45	230	205	5	24 days..	586	270	0.1%	Occasional.	1016	0	0	Chronic interstitial nephritis; uremia...	Chronic interstitial nephritis; arteriosclerosis.
15	2270	M.	65	200	185	3	2 weeks.	612	134	L. T....	Occasional.	1011	0	0	Chronic nephritis	Chronic interstitial nephritis; arteriosclerosis.
16	2272	M.	35	175	...	1	1 day...	365	342	O	O	....	0	0	Traumatic cerebral hemorrhage........	Traumatic cerebral hemorrhage; traumatic cysts of softening of brain.
17	2296	M.	51	210	95	2	3 days..	725	199	S. T. ..	Numerous.	1007	0	0	Chronic interstitial nephritis; arteriosclerosis; uremia	Chronic interstitial nephritis; arteriosclerosis; small apoplectic cyst of brain.
18	2321	M.	54	260	255	2	10 days..	740	285	S. T....	Few......	1015	+	0	Chronic interstitial nephritis...........	Chronic glomerulo-nephritis; slight arteriosclerosis.
19	2349	F.	35	205	...	1	4 weeks.	515	210	T.	Rare......	1007	+	+	Cardio-renal disease	Chronic glomerulo-nephritis.
20	2365	F.	41	255	240	5	9 days..	490	200	¼%	Many.....	1013	+	0	Chronic glomerulo-nephritis	Chronic glomerulo-nephritis; slight arteriosclerosis.
21	2396	M.	52	200	...	1	4 days..	508	367	S. T....	Few......	....	0	0	Cerebral hemorrhage; arteriosclerosis; myocarditis.	Arteriosclerosis; cerebral hemorrhage.
22	2449	F.	40	240	...	1	1 day...	440	288	T.	O	1014	+	0	Cerebral hemorrhage; chronic nephritis.	Hemorrhage of brain (spontaneous); cerebral arteriosclerosis.
23	2495	F.	59	225	...	1	6 days..	525	215	S. T....	Few......	1007	0	0	Aortic disease; chronic nephritis.......	Chronic endocarditis of aortic and mitral valves; arteriosclerosis; acute degeneration of kidneys.
24	2508	M.	43	220	200	10	10 days..	467	140	L. T....	Numerous.	1007	+	0	Chronic glomerulo-nephritis	Chronic nephritis; arteriosclerosis.
25	2534	M.	49	165	130	7	24 days..	670	362	S. T....	Occasional.	1010	+	+	Chronic interstitial nephritis...........	Syphilitic aortitis; fibrinous endocarditis of aortic and mitral valves.
26	2542	F.	52	210	205	2	8 days..	602	449	S. T....	Few......	1020	+	0	Cardio-renal disease; cirrhosis of liver.	Arteriosclerosis; chronic interstitial; hepatitis; acute glomerulo-nephritis.
27	2550	M.	30	205	145	6	2 weeks.	1273†	484	T.	Numerous.	1020	+	+	Chronic endocarditis mitral and aortic valves; acute endocarditis.	Chronic adhesive pericarditis; chronic verrucose endocarditis of mitral aortic valves; subacute glomerulo-nephritis.
28	2560	M.	59	190	163	2	9 days..	720	205	V. S. T.	Rare......	1008	+	0	Chronic interstitial nephritis; uremia; arteriosclerosis.	Chronic glomerulo-nephritis; arteriosclerotic nephritis; arteriosclerosis.
29	2565	M.	44	230	205	3	10 mos...	680	183	T.	Rare......	1009	+	+	Glomerulo-nephritis	Chronic nephritis; arteriosclerosis.
30	2566	M.	71	175	...	1	16 days..	412	202	S. P. T.	O	....	+	0	Contracted kidneys; myocarditis........	Arteriosclerosis; hydronephrosis; fibrocalcareous endocarditis of aortic and mitral valves.
31	2579	F.	37	165	...	1	5 days..	223	208	T.	O	1012	0	0	Miliary tuberculosis	General miliary tuberculosis; tuberculous meningitis.
32	2611	M.	66	190	150	7	7 days..	343	232	O	Rare......	1017	+	0	Arteriosclerosis; arteriosclerotic nephritis	Subacute glomerulo-nephritis; arteriosclerosis.
33	2624	F.	47	190	125	3	4 days..	...	...	V. S. T.	O	1029	0	0	Brain tumor	Angioma of brain.
34	2634	F.	55	200	160	5	7 days..	567	120	T.	Numerous.	1017	+	+	Chronic nephritis	Chronic nephritis; arteriosclerosis.

PATHOLOGIC FINDINGS IN FIFTY-THREE CASES OF HYPERTENSION—Continued

35	2667	M.	67	165	150	2	5 days..	620	189	S. P. T.	Rare.....	1005	+	0	Chronic interstitial nephritis; arteriosclerosis.	Arteriosclerotic nephritis; arteriosclerosis; foci of interstitial myocarditis; fibrocalcareous endocarditis aortic valve.
36	2670	M.†	25	205	160	25	32 days..	615	170	T.	Many.....	1008	+	+	Chronic glomerulo-nephritis; uremia....	Chronic glomerulo-nephritis.
37	2676	M.	40	215	140	70	11 weeks.	530	235	½ %	Many.....	1010	+	+	Chronic glomerulo-nephritis	Chron. glomerulonephritis; arteriosclerosis; myomalacia wall left ventricle.
38	2682	M.	49	240	185	3	5 days..	358	310	S. T....	Many.....	1010	+	+	Chronic glomerulo-nephritis	Subacute glomerulo-nephritis.
39	2689	M.	44	240	140	7	7 days..	330	257	0.1 %	O	1012	+	+	Chronic diffuse nephritis..........	Arteriosclerotic nephritis; arteriosclerosis.
40	2694	M.	35	250	135	120	4.5 mos.	555	131	T.	Many.....	1010	+	0	Chronic glomerulo-nephritis	Chronic glomerulo-nephritis; arteriosclerosis (slight).
41	2714	M.	66	200	135	5	10 days..	530	480	L. T....	Many.....	1024	0	0	Alcoholism; chronic nephritis..........	Arteriosclerosis; fatty infiltration of myocard.; fibrous endocarditis aortic valve.
42	2717	F.	30	195	...	1	Few hrs..	...	200	T.	Few......	1009	0	0	Chronic glomerulo-nephritis	Chronic glomerulo-nephritis.
43	2727	F.	43	175	155	4	21 days..	357	550	S. P. T.	O	1015	0	+	Polio-encephalitis	Carcinoma of ovaries with metastases in kidneys; degeneration in pons.
44	2739	M.	52	170	133	6	21 days..	625	310	L. T....	Many.....	1017	+	+	Arteriosclerosis	Cardiac thrombosis.
45	2745	M.	68	210	170	22	5 mos...	728	253	T.	Occasional.	1020	+	0	Arteriosclerosis; arteriosclerosis of aorta.	Arteriosclerosis; slight fibrous endocarditis of aortic and mitral valves; mural cardiac thrombi.
46	2761	F.	60	210	...	1	1 day...	520	268	O	O	1014	+	0	Chronic glomerulo-nephritis; uremia....	Slight arteriosclerosis; glycosuria.
47	2765	M.	73	185	130	6	6 mos...	450	290	O	O	1016	0	+	Pernicious anemia	Arteriosclerosis; pern. anemia; fatty degen. of myocard.; fibrous endocarditis of aortic, mitral and tricuspid valves.
48	2769	M.	70	200	125	3	3 days..	335	190	V. S. T.	Numerous.	...	0	0	Cerebral hemorrhage	Arteriosclerosis; cerebral hemorrhage.
49	2773	F.	56	170	...	1	9 days..	310	146	T.	O	1008	0	0	Stokes-Adams disease; renal calculus....	Arteriosclerotic nephritis with calcium oxylate deposits in tubules and cortex.
50	2808	M.	63	170	...	1	4 days..	325	145	0.1%	Few......	1017	0	0	Arteriosclerosis	Chronic interstitial nephritis; arteriosclerosis.
51	2809	M.	42	250	210	30	5.5 wks.	535	230	T.	Many.....	1010	+	0	Chronic glomerulo-nephritis	Chronic interstital nephritis (atrophic kidneys); arteriosclerosis.
52	2810	M.	52	165	135	4	23 days..	588	335	T.	Many.....	1017	+	+	Aortic stenosis and regurgitation......	Fibrous endocarditis of aortic and mitral valves; slight arteriosclerosis.
53	2822	F.	43	230	210	5	10 days..	465	276	T.	Many.....	1011	+	+	Chronic glomerulo-nephritis	Chronic glomerulo-nephritis.

* T., trace; S. T., slight trace; V. S. T., very slight trace; S. P. T., slightest possible trace; L. T., large trace. O, negative. † With pericardium.

autopsy from the medical wards at the Massachusetts General Hospital from Jan. 1, 1907, to April 25, 1911. Before 1907 the blood-pressure determinations were not made in sufficient numbers to give adequate data. Since 1907, while blood-pressure determinations have not been used as a routine in every case at the Massachusetts General Hospital, yet it is fair to say that such determinations have been made in nearly every case, if not every case, that would come into the group under discussion.

Unfortunately, only the determinations of the systolic blood-pressure are available. The instrument used has been the Riva-Rocci apparatus with the wide armcuff. The observations were all taken in the recumbent position when the patient was able to lie down. The apparatus was placed on a table practically on a level with the heart, with the arm at the same level. The determinations were made by various individuals, but in general the method was that advocated by Janeway[6] and Sawada[4]; namely, the point at which the first full beat returns after the obliteration of the pulse. Janeway and Park[7] have shown that in clinical blood-pressure determinations, if the wide arm-piece be used and if the return of the first fully developed pulse-wave be taken, even advanced arterial thickening and calcification probably do not intrude an error of any importance.

The limit of 160 was taken, as Janeway[6, 8] and others[9, 10] believe that such a limit is rarely exceeded in normal individuals. From Jan. 1, 1907, to April 25, 1911, there were in the medical wards of the Massachusetts General Hospital fifty-three cases with blood-pressures over 160 that came to autopsy. The hospital admits only acute cases or acute manifestations of chronic cases. Most of the autopsies were done by Dr. Oscar Richardson; a few by Dr. J. H. Wright. The histologic examinations were made by Dr. Wright.

In the discussion of the diagnosis, little attempt has been made to balance the relative importance of the pathologic findings. If a kidney lesion of any description is present, it is considered that such a case belongs to the group of cases of hypertension associated with kidney lesions.

HYPERTENSION WITH LESIONS IN THE KIDNEYS

The pathologic findings showed some kidney lesion in thirty-eight cases, or over 71 per cent. These thirty-eight cases include one case which was, pathologically, acute degeneration of the kidneys and one case of hydronephrosis. In seven of the thirty-eight cases showing kidney lesions, or 13 per cent. of the whole series, the lesions found at autopsy were essentially confined to the kidneys (Cases 2, 8, 19, 36, 38, 42 and 53). Five of these seven cases showed pathologic changes classified as chronic glomerulonephritis, one as subacute glomerulonephritis and one as chronic interstitial nephritis. The maximum systolic blood-pressure in this group of seven cases ranged from 165 to 240.

HYPERTENSION WITH ARTERIOSCLEROSIS

Arteriosclerosis was found at autopsy in thirty-seven of the fifty-three cases, or 69 per cent. General arteriosclerosis was associated with lesions in the kidney in twenty-eight cases, or 52 per cent.

There was only one case (Case 46) of hypertension with arteriosclerosis in which there was no kidney lesion,

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6. Janeway, T. C.: Clinical Studies of Blood-Pressure, New York, 1904, p. 64.
7. Janeway and Park: Arch. Int. Med., Nov. 15, 1910, vi, 586.
8. Janeway, T. C.: Am. Jour. Med. Sc., 1906, i, 772.
9. Osler: System of Medicine, iv, Chap. x, 426, 447.
10. Woley: THE JOURNAL A. M. A., July 9, 1910, p. 121.

no cerebral lesion and no cardiac lesion, except simple hypertrophy and dilatation, the blood-pressure was 210. This case was in the hospital only twenty-four hours, and there was only one observation of blood-pressure. The patient was in coma. The urine showed no albumin but a slight trace of sugar. The pathologic examination showed a woman of 60 years, with slight general arteriosclerosis, a heart weighing 520 gm., normal kidneys weighing 268 gm. and no other lesions worthy of note.

In two cases (Cases 41 and 47) of fibrous endocarditis with no lesions in the kidneys, the valvular lesions were slight and the essential pathologic change seemed to be arteriosclerosis.

HYPERTENSION WITH CEREBRAL LESIONS

In eight of the fifty-three cases, or 15 per cent., there were definite cerebral lesions. One case was associated with a chronic nephritis and three with arteriosclerosis. In four cases no other blood-pressure-raising factor besides the cerebral lesion was apparent.

HYPERTENSION WITH CARDIAC LESIONS

In thirteen of the fifty-three, or over 24 per cent., there were definite cardiac lesions in addition to simple hypertrophy and dilatation of the heart, and in eleven of these thirteen there was endocarditis of the aortic valve. In every case in which the endocardium was affected, the aortic valve was involved. Three of the thirteen cases showed no other lesions which might be assumed to raise the blood-pressure.

HYPERTENSION WITHOUT KIDNEY LESIONS

There were fifteen cases, or 28 per cent. of the series, in which no kidney lesions were found; at autopsy seven showed cerebral lesions. In four cases the chief pathologic lesion was cerebral hemorrhage. The blood-pressure varied in these four cases from 175 to 260. In one case (Case 16) the cerebral hemorrhage was traumatic; in that case the blood-pressure was 175. In the other three cases (Cases 21, 22 and 48) the cerebral hemorrhage was apparently due to the rupture of an arteriosclerotic cerebral vessel. In these three cases, the blood-pressures were over 200. In the same group is one case of brain tumor (Case 33) with a blood-pressure of 190; one case of degeneration in the pons (Case 43) with a blood-pressure of 175, and one case of miliary tuberculosis with a tuberculous meningitis (Case 31) with a blood-pressure of 165. Consequently, in seven out of fifteen cases of hypertension not associated with a lesion in the kidney, there was some cerebral condition which might have caused cerebral pressure. Cushing and others have shown the relation between increased intracranial pressure and an increased blood-pressure.

In this group of fifteen cases of hypertension without kidney lesions, seven showed cardiac lesions. There were two cases (Cases 10 and 44) in which intracardiac thromboses were found without other cardiac lesions beyond simple hypertrophy and dilatation and without arteriosclerosis. There was one case of syphilitic aortitis (Case 25) with a slight amount of fibrous endocarditis of the aortic valve. In addition, one finds in this group four cases (Cases 41, 45, 47 and 52) of fibrous endocarditis of one or more valves of the heart, all associated with arteriosclerosis and one case with primary pernicious anemia. The aortic valve was affected in every case. In the same group of fifteen cases of hypertension without kidney lesions comes the case of arteriosclerosis (Case 46). In this group of fifteen cases of hypertension without lesion in the kidneys there were seven patients under 50 and eight over 50 years. The maximum systolic blood-pressure varied from 165 to 260.

HYPERTENSION WITHOUT LESIONS IN THE KIDNEYS AND WITHOUT ARTERIOSCLEROSIS

There were seven cases with neither arteriosclerosis nor nephritis. Of these seven cases four showed cerebral lesions. One was a case of brain tumor (Case 33), one was a case of general miliary tuberculosis with tuberculous meningitis (Case 31), one a case of degeneration in the pons and carcinoma of the ovary (Case 43), one a case of cerebral hemorrhage due to trauma (Case 16). The remaining three cases in this group were cardiac cases (Cases 10, 25 and 44). The ages in this group were from 30 to 52. This group of seven cases is characterized by a moderate degree of hypertension as a rule, two showing a maximum systolic blood-pressure of 165, one of 170, two of 175, one of 190 and one of 200. Therefore, in this series of fifty-three cases in the absence of both arteriosclerosis and any lesion in the kidney no blood-pressure over 200 was found.

If one considers only the cases with more than one blood-pressure observation and only cases showing constantly a blood-pressure of 200 or over there were ten cases all of which were cases with kidney lesions. In nine of these ten cases arteriosclerosis was also present, although in two cases the arteriosclerosis was slight.

Of fifty-one cases in which we have the kidney weight twenty-nine, or 56 per cent. +, were distinctly atrophic i. e., weighing under 250 gm. Of the twenty-nine kidneys weighing less than 250 gm. twenty-seven showed kidney lesions and two showed no kidney lesions. One case (Case 31) showed miliary tuberculosis in which the blood-pressure was 165. In this case the kidneys weighed 208 gm. but the heart also was small, weighing 223 gm. The other (Case 48) showed arteriosclerosis and cerebral hemorrhage. The blood-pressure varied between 260 and 125. The heart weight was 335 gm. and the kidneys 190 gm. Only eleven cases of the thirty-seven with kidney lesions, or 27 per cent., failed to show small atrophic kidneys. Of the ten cases with kidney lesions, with kidneys weighing more than 250 gm., five showed kidneys weighing 250 to 300. Histologically, all showed atrophic conditions. In one case, with kidneys weighing 313 gm., the chronic interstitial changes were slight (Case 9). This was the case of lead poisoning and pneumonia. Three of the other four cases were cases of subacute glomerulonephritis and the other was a case of acute glomerulonephritis. In seven of these ten cases the blood-pressure was over 200 mm. of mercury. Marked hypertension occurs in this series in a certain number of cases in association with kidneys which are not atrophic, and in acute and subacute glomerulonephritis.

The weights of the hearts were of considerable interest; of the fifty-one cases in which the heart weights were recorded only thirteen weighed less than 400 gm., ten weighed between 400 and 500, and twenty-nine, or 56 per cent., weighed over 500 gm. Of special interest is Case 48, in which the heart weighed 335 gm. In this case a blood-pressure of 260 was present for twenty-four hours, of 180 the next twenty-four hours, but the pressure sank to 125 on the third day, the day of death. Case 12 was observed for two weeks, with three observations scattered through the period. The blood-pressure varied between 225 and 190. The heart weighed 363 gm. Consequently, a high blood-pressure of over 190 may persist for a period of days with only a very moderately hypertrophied heart.

The anatomic and clinical diagnoses approximately correspond in forty-four of the fifty-three cases. In five cases (7, 9, 27, 49 and 50) kidney lesions were found at autopsy, but were not diagnosed in life. In one of these five cases (Case 9), one of lead poisoning with lobar pneumonia, the kidney lesion was slight. In two cases (7 and 27) the nephritis seemed incidental. In five cases (22, 25, 30, 41 and 46) a kidney lesion was diagnosed but was not found at autopsy. This diagnosis was, apparently, based chiefly on the high blood-pressure.

In these fifty-three cases albumin was absent in only four; in three of these four there was no kidney lesion. In these four cases the clinical diagnosis of nephritis was made twice and in one the kidney lesion was present and in one a kidney lesion was not present at autopsy.

Of the fifty-three subjects thirty-six were males and seventeen females. The males predominate over two to one. In the ten-year periods there were one from 20 to 29, nine from 30 to 39, nineteen from 40 to 49, ten from 50 to 59, nine from 60 to 69, five from 70 to 79 and one subject of unknown age.

The age period of from 40 to 49 has nearly twice as many as any other period. From 40 to 59 are twenty-nine cases, or 54 per cent., of all the cases. The youngest patient was 25, the oldest 73.

SUMMARY

Some kidney lesion was present at autopsy in over 71 per cent. of the cases of hypertension. In 13 per cent. the kidney lesion was essentially uncomplicated by other possible blood-pressure-raising factors; the lesion in the kidney was atrophic in 72 per cent. of the kidney cases. Hypertension also occurs in the so-called acute and subacute glomerulonephritis as well as in the atrophic form of nephritis. Arteriosclerosis was present in 69 per cent. of the cases, but in only one case could all other lesions which might cause hypertension be excluded.

In fifteen cases no kidney lesion was found at autopsy. Seven of these cases presented cerebral lesions, seven cardiac lesions and one general arteriosclerosis. In every case of valvular disease of the heart, the aortic valve was involved. No patient without either nephritis or arteriosclerosis showed a blood-pressure of over 200. All the patients with repeated and constant blood-pressure readings of over 200 showed some kidney lesion.

In thirty-eight of the fifty-one cases there were definitely hypertrophied hearts, yet in some instances high blood-pressures were observed to persist for days with hearts weighing less than 400 gm.

The following conclusions seem justified:

Hypertension occurs most commonly in association with some lesion in the kidney. The most common lesion is an atrophic kidney with increase of connective tissue and disappearance of glomeruli. Hypertension occurs also in association with acute, subacute and chronic glomerulonephritis.

Hypertension occurs not infrequently in association with cerebral lesions.

A moderate degree of hypertension may occur in cardiac lesions. In valvular cardiac lesions the aortic valve is apparently always involved.

Hypertension may occur rarely in cases of general arteriosclerosis without other lesions.

With a continued systolic blood-pressure of over 200, some form of nephritis is found.

Hypertension usually indicates well-marked cardiac hypertrophy. The hypertrophy may be moderate in connection with a well-marked hypertension over a considerable period.

NOTE.—In addition to the authorities previously cited, the following may be found of interest:

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Husch: Deutsch. Arch. f. klin. Med., lxviii, 55 and 331.
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ABSTRACT OF DISCUSSION

DR. WILLIAM OPHÜLS, San Francisco: I was much interested in Dr. Lee's paper, because lately I have been working on the same question, but from an anatomic point of view. I should refer those of you who are interested to the Scientific Exhibit, where some microphotographs and charts are exhibited, which show the result of an investigation of kidneys, heart and blood-vessels in 1,000 consecutive autopsies. As is shown in these charts, general arteriosclerosis and the so-called small granular kidney are closely associated. Glomerulonephritis proper, however, can be distinctly separated from these primarily arteriosclerotic cases.

Dr. Lee's clinical observations bear out very closely what I have seen anatomically. In regard to hypertension I am inclined to place more importance on general arteriosclerosis than on the renal lesions which may be associated. I was quite astonished myself, in looking over my cases, to learn how comparatively insignificant the renal lesions are in producing the symptom-complex. Undoubtedly at present the rôle of the kidneys in its production is greatly exaggerated.

DR. EDWARD F. WELLS, Chicago: There is an art, as well as a science, in the study of blood-pressure, and the art, to be useful, requires practice. He who measures the blood-pressure rarely and in the exceptional case and attempts to draw conclusions from his occasional observations, places himself in the position of one who would form his opinions on the pulse under similar circumstances; both would obtain very *indefinite and obscure impressions of the* great variations in the characteristics of the blood-pressure and pulse, respectively, and would underestimate the value of the procedure. He, however, who measures the blood-pressure as a diagnostic routine procedure obtains useful and pertinent information.

The blood-pressure which rises gradually through a long period of time and is accompanied by cardiovascular and nephritic morbid changes, is probably fundamental and permanent, and is one which cannot be materially reduced, and it may be questioned whether this should be attempted. There is, however, an exalted blood-pressure which attends certain toxic conditions, as, for example, the toxemia of pregnancy, which results in eclampsia, in which the blood-pressure may rapidly rise to great heights. Although we do not yet know fully the relations of the blood-pressure to the toxic agent in these cases, nevertheless we are justified in regarding it as due to the rapid introduction into the circulating liquids of a powerful toxin which acts with intense energy on the vasomotor nerves. Such high blood-pressures quickly fall on removal of the offending cause; they are clearly functional. Now in the class of cases first alluded to, there may be added to the ordinary high blood-pressure of the individual a more or less rapidly advancing increase in tension, due to some ephemeral toxemia, and which may disappear with celerity when once the extra burden is removed, leaving the blood-pressure at the usual high level for the individual, but the reduction, is not materially lower than is habitual for the patient. It is my belief that the recognition of these facts is of practical importance, first, to the patient's welfare, and second, to the fair fame of medicine.

Dr. Frank Billings, Chicago: What has been said regarding cardiovascular changes, agrees with the statement already made that the cardiovascular or vascular changes with the hypertrophy of the heart are very important things to consider in blood-pressures. Sometimes in our ignorance the elevation in the blood-pressure is ascribed to a toxemia; there seems to be nothing else which will describe it. However, toxemia has been recognized in many other conditions in which there is an increase of blood-pressure; some vasomotor process such as is exemplified in the phenomena which appear in hyperthyroidism. In the early stages of this disease there is a blood-pressure of 180 or 200, and this is before the disease has progressed to changes in the cardiovascular system. This must be the result of a toxemia, something which produces overfull blood-vessels. As Dr. Wells stated in relation to the management of such conditions, the existence of a permanent blood-pressure is in a sense conservative; it is Nature's method.

We must consider hydrostatic pressure, but there is another condition, toxemia, which we must not neglect. I agree with Dr. Lee that there are many other things that cause hypertension, such as cardiovascular changes and other changes referable to the kidney. I have watched many cases in the clinics, many that have gone to autopsy; I have seen patients suffering from toxemia without apparently any cardiovascular changes; but at autopsy the kidneys were found to be practically worthless, or functionless.

Just one other word. I do not believe that we can say definitely that there is an exact dividing line between the pathologic and the normal in these cases. To say that 160 is the limit of health, or the point at which disease begins, I think is wrong. There are people of the very nervous type who, under certain conditions, such as overwork, worry, and the like, run up the point to 160, 170 or 180, even, and here we find associated the toxemia that goes with fatigue. When these people are treated with ordinary hygienic measures there is a lessening in the blood-pressure. I do not believe that we have any right to have a statement go forth that a blood-pressure of 160 or more really means, necessarily, disease.

Dr. C. F. Hoover, Cleveland: For the past few years I have studied the diastolic arterial pressure in all suspected cases of hyperthyroidism and I have yet to find a patient in whom there is an elevation of the diastolic pressure even when the systolic pressure is high. My attention was attracted to this point by cases with cardiovascular disease being referred to the surgical wards for operation on goiter which these patients happened to have. The goiters in such cases were merely incidental and were not the cause of the cardiac symptoms.

Dr. Charles L. Greene, St. Paul, Minn.: With respect to the findings in these cases of aortic lesions, in the cases that have been so ably described by the reader of the paper, if the cases were in fact aortic regurgitation, then what has been presented should not be included among the high-pressure cases. The experience of all of us who are doing this sort of work shows that we may get a very high systolic pressure, but for different reasons, as described by Dr. Hoover. With the Corrigan pulse we may find a high systolic pressure and a very low diastolic pressure.

Dr. Walter L. Bierring, Des Moines, Iowa: I should like to ask the reader of the paper if any histologic examination of the brachial artery was made and compared with the condition of the other arteries in the body. It has become recognized that marked differences often exist in the pressure in the brachial and the femoral arteries, and it would be interesting to know if local changes in the blood-vessels could account for this difference.

In determining arterial pressure by the simpler method of palpation, it has also seemed to me far more satisfactory to palpate the femoral artery rather than the radial or the brachial, and by comparative tests one can make much closer estimates in this way with the findings of different forms of special apparatus used for this purpose.

Dr. Roger I. Lee, Boston: Only a macroscopic examination of the adrenals was made in these cases. No gross lesions were found. Among these cases was one of syphilitic aortitis. The spirochetes were found in the walls of the aorta. Two or three other patients gave a history of syphilis.

Only rarely were histologic examinations of the blood-vessels made. The brachial artery was the one used, as a rule to ascertain the blood-pressure. The femoral artery was occasionally employed, but merely as a control for the brachial artery. But in the synopsis the conclusions were drawn from the results obtained from the brachial artery.

I agree with Dr. Billings in regard to setting a limit, or trying to set a limit between what is pathologic and what is normal; the limit of 160 was merely taken because we wanted some limit and 160 is generally regarded as being a fairly good dividing line. It is evident that the diastolic blood-pressure may be very variable in these cases; a further study will result, no doubt, in more satisfactory conclusions.

The cases studied include only one case of frank aortic regurgitation, and one case of aortic stenosis.

The primary purpose of my paper was to find out how great a rôle arteriosclerosis played in hypertension, inasmuch as the German schools have insisted on the close relation between hypertension and kidney lesions. It should be remembered that kidney lesions, however slight, may be sufficient to cause a high blood-pressure. It is certainly very difficult to balance the relative importance of the different lesions. One must think of the so-called latent nephritis, a name applied by the Germans. In this study I classified all cases having any kidney lesions under the head of hypertension associated with kidney lesions.

Another reason for my undertaking this study was that I wished to place hypertension on an anatomic basis so far as possible. While as yet few cases of hypertension have been recorded as the result of a toxemia, it is certain that soon many will be. Barker has reported a case of transitory high blood-pressure in a case of tabes with gastric crises. These cases must be carefully studied, especially in regard to the condition of the heart, kidneys and blood-vessels.

RESERVE RENAL CAPACITY IN CHRONIC INTERSTITIAL NEPHRITIS*

EDWARD F. WELLS, M.D.
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In the mid-course of chronic interstitial nephritis, with the secreting structures of the kidneys greatly reduced by degenerative and atrophic processes, more or less marked renal insufficiency is the rule. With the high-pressure circulatory balance well maintained, the urinary water flows in full or increased volume, the insufficiency being confined to an inadequate excretion of certain waste and superfluous determinable and occult substances which are deleterious to the human body, and which are ordinarily efficiently removed by healthy kidneys. It is probable that the most toxic and important of these are, as yet, demonstrable only by their effects. In the future, when methods shall have been perfected whereby these may be differentiated and measured, our problem will be susceptible of ready and accurate solution. For the present, and for our practical purposes, we are compelled to rely on the amount of urea, chlorids, phosphates and sulphates contained in the daily urine, together with the general and special symptoms, in forming an estimate of renal capacity. Notwithstanding the difficulties and inaccuracies attending such estimates under current conditions, it is my opinion, based on a fairly long and broad experience, that they are of sufficient diagnostic and prognostic importance to warrant their employment in the routine of general practice.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

Many years ago I attended a man who was known to have had chronic interstitial nephritis for more than twenty years, during the latter of these accompanied by frequent and at times very severe attacks of uremia. For several years fairly full analyses of the urine were made once or twice a week, and at times daily for periods of from two to six months. These analyses showed the total solids and urea uniformly greatly reduced, the latter ranging from 3 to 12 gm. per day, with 8 gm. as an approximate average. At one time the daily excretions of urea averaged about 5 or 6 gm. over a period of several weeks, at the end of which the patient had a severe attack of uremia with most active maniacal excitement. During twenty-four hours of violent muscular exertion he passed urine which contained 36 gm. of urea. Following this observation it was noted that active, and to a lesser degree passive, muscular exercise regularly increased the excretion of urea, and approximately a like amount of such exercise always augmented the urea excretions to a corresponding degree; that is, up to from 10 to 12 gm. Later it was experimentally demonstrated that if lean meats were added to the diet, the urea excretion was further increased according to the amount of proteid ingested, up to 15 or 20 gm. This required about 300 gm. of meat. In this case it was clearly evident that beyond this proteid intake the urea output lagged behind. For reasons not material to our theme these observations, so far as the giving of meats was concerned, were omitted, but the employment of active and passive muscular exercises were continued with satisfactory results as an important feature of management. In this case the conclusion to which I had come, and which was shared by other physicians, namely, that the secreting structure of the kidneys were so largely destroyed as greatly to reduce the renal functional capacity, using the urea output as a measure, to far below the requirements of the system, and with a practical abolition of any reserve capacity, was demonstrably erroneous.

During the past ten years I have had frequent opportunities to pursue these investigations, with the result that a sufficient array of facts has been accumulated to warrant the deduction that, in the class of cases under discussion, the kidneys are seldom anatomically or functionally altered to such degrees as to preclude the moderate regular excretion of water, urea, chlorids, and other of the measurable constituents of the urine, and, on occasions of great and extraordinary stimulation, to show evidence of correspondingly increased functional activity, which may, with propriety, be termed reserve renal capacity. That this is an important fact, capable of being turned to diagnostic, prognostic and therapeutic usefulness, must be clearly evident.

In investigating the capacity of the kidneys in chronic interstitial nephritis under the ordinary conditions of life, and under those entailing extraordinary stress on all the organs engaged in the production and excretion of the urinary constituents, various procedures may be adopted, varying with the character of the information desired, and, it may well be added, with the predilections of the physician.

The conditions under which the excretion of urinary water may vary are so fully dealt with in the literature that only a few points of practical importance will be considered: As is well known the urine is, as a rule, notably increased in quantity, with a very considerable proportional and total reduction of the urea and other solids. Should the volume of urine decline, without a corresponding reduction of liquid intake, further examination will disclose circulatory failure with occult or manifest edema. Much later, when there is added to the above high color and increased or even largely increased total urea excretion, cellular nutritive balance with destructive metamorphosis will be present. Observation will soon show that at neither the highest nor lowest output of urinary water does the excretion of urea and other solids reach the highest level; but rather is this found at some intermediate point, which, because of its therapeutic importance, should be, from time to time, closely determined.

During the recently passed years the excretion of chlorids has been very closely studied, and I have only a word to add in this connection, namely, that as a foundation for any dietetic directions which intelligently consider this question, there should be a fairly accurate determination of the chlorid excretory capacity of the kidneys. The methods may be readily adapted.

In the present state of our knowledge in chronic interstitial nephritis, and in connection with our theme, greatest interest lies in estimating, comparatively and absolutely, the excretory capacity of the kidneys for those nitrogenous substances resulting from proteid metabolism of which urea is the chief and best known.

For the purpose of obtaining information as to the renal capacity, I am in my own practice accustomed to employ the following procedures:

The daily urine is examined closely, and recorded and charted every day during the entire time occupied in making the observations, which is divided into a series of periods of three days each. During the first of these the patient is under his accustomed diet and regimen. During the second he takes two freshly made pills of mercurial mass every night, followed by a saline cathartic next morning. In the third the diet is restricted to water, cream and water soups and thin gruels, all in moderate or small quantities, with physical rest. During the fourth he has added to his diet breads, rice and potatoes, the food having a daily caloric value to meet fully nutritional requirements. To this there is added 300 gm. of lean meat during each of the three days of the fifth period; 400 gm. in those of the sixth; 500 gm. in those of the seventh; 600 gm. in those of the eighth. If desirable, the series with increasing amounts of proteid intake may be further extended if required.

In giving the meats in this gradually ascending scale, it will be noted that during the earlier periods the urea excretion rises directly as to the proteid ingestion. As the scale ascends, however, there comes a time in which ingestion of proteids and excretion of urea no longer run parallel, the latter lagging behind; later this becomes so marked that I prefer to terminate the investigation.

Applying the rule of averages, to which no chronic interstitial nephritic patient very closely conforms, the daily excretion of urea by the three-day periods may be tabulated as follows:

Period 1, under ordinary diet and regimen	12 gm.
Period 2, under ordinary diet, etc., with evacuants	8 gm.
Period 3, under very restricted diet and rest	6 gm.
Period 4, under full carbohydrate diet plus 300 gm. lean meat	14 gm.
Period 5, under full carbohydrate diet plus 400 gm. lean meat	22 gm.
Period 6, under full carbohydrate diet plus 500 gm. lean meat	30 gm.
Period 7, under full carbohydrate diet plus 600 gm. lean meat	36 gm.

If during the fourth and subsequent periods the patient subjects himself to unusual active and passive muscular exercise, the urea output should be considerably augmented. Should there be any material deviation in a downward direction, from the curve of urea output, based on the above, a corresponding renal incapacity is indicated; any excess above that of the first period which may be observed during periods of four to seven, inclusive, represents reserve renal capacity.

In making these tests, wide variation in methods, and in additions to or subtraction from the details of those mentioned, may be practiced, as required, or as individual experience demonstrates to be the most available. Special emphasis, however, should be laid on the character of the proteid given, inasmuch as the urea output after the ingestion of meat follows fairly promptly and reaches its full height on the second, certainly on the third, of these days, whereas should eggs be employed, a much longer time is required for elimination. There may be added during these last three days as much active and physical muscular exercise as the patient is able to bear, which will further increase the output of urea. Personally, I prefer to make this a fourth three-day period, but this is probably immaterial.

As an example of the wide variations met with in making these estimations, the following case is worthy of mention. A few years ago a gentleman, 65 years of age, with chronic interstitial nephritis of many years' duration, passed, under great urinary stress, urine which contained during one twenty-four-hour period 64.5 gm. of urea. In making several tests, such as those described, the urea with great uniformity rose to from 30 to 35 gm. per day, and if much exercise should have been taken during the final period 35 to 40 gm. were not uncommon.

In making these tests from time to time, other important features were noted. For example, it was noticed almost constantly that, following the test, the patient appeared to be very much improved over his former condition. Most of this improvement was of such a nature that it could not be definitely measured. The patient, however, appeared to be fully aware of the fact, and indefinitely I shared his opinion. For this reason I have made these observations with more or less frequency in each patient for the purpose of obtaining, first, diagnostic and prognostic information; second, for possible therapeutic advantages; and third, that the patient's interest in his case and its management may be intelligently and optimistically maintained.

It is a fair inference that, if known, the output of urea can by simple measures and with safety be so stimulated that from an average of 10 to 15 gm. per day, an amount double this may be uniformly reached: the anatomic alterations and physiologic capacity are such as to eliminate urea, chlorids, phosphates, sulphates, etc., with fair safety. The danger to these chronic interstitial nephritics must, then, lie in the failure of the kidneys to eliminate other toxic substances of a nature so subtle as so far to defy analysis. It is also probable that the circulatory, and especially the extravascular circulatory changes are responsible for the failure to eliminate these heretofore undefined toxic agents. From this it may be readily seen that such measurements as those described fall far short of our requirements. Nevertheless, they are, taken in connection with such other observations as those of estimating the blood-pressure, the retinal fields and a careful review of the symptomatology, the best obtainable at the present time. As the results of my own observations, I am of the opinion that those cases in which there can be demonstrated, with regularity, a fair or large reserve renal capacity offer the best chances for prolonged life, physical and mental capacity and usefulness, while those in which the reserve renal capacity is but slight are in much greater risk of prematurely encountering the various serious accidents which accompany the later stages of this malady.

On the information obtained may be based some important details of management. In my own practice I advise such active and passive muscular exercises as may be taken without evidences of urea retention. Also the amount of proteid ingestion, always small or moderate, is gauged in like manner. These I consider points of great practical importance.

Along similar lines estimations may be made of the capacity of the kidneys to eliminate urinary water; also of chlorids. The latter, taken in connection with observations on the weight of the patient and of the extra-vascular serum accumulation, blood-pressure and cardiac hypertrophy, is of prime importance and should be made with regularity. It is not my purpose, however, in this paper to consider this line of thought; my main object is to stimulate further and more accurate investigation.

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ABSTRACT OF DISCUSSION

DR. FRANK BILLINGS, Chicago: What Dr. Wells has read to us this morning should be a lesson; what he has given us has been an individual study of a diseased organ, the kidney, and there is much that is new in it. The method he employs in estimating the functional capacity of the kidney is interesting; perhaps if one wished to offer a criticism one might say that one could not, by such measures as he employed, fully estimate the physiologic function of the kidney, or the metabolism of the body; yet clinically the measure he employs is the only one that is practical by which we can reach any such conclusions. The painstaking way he has worked with the different diets, day after day, and all before he has arrived at any conclusion, shows that his work and study is worthy of careful consideration. He is using the same methods we should use in other diseases, such as diabetes—measuring the individual capacity of the patient.

DR. WALTER L. BIERRING, Des Moines, Iowa: The thought arises whether the disturbances in the nutritive balance may not be influenced by other organs besides the liver. In considering the condition termed chronic nephritis, a very close relationship was recognized between that triad of structures, the myocardium, the blood-vessels and the kidneys. It is also exceedingly difficult to estimate the functional capacity of the kidney, to note only the urinary findings; and oftentimes many of the symptoms which are most indicative of chronic nephritis are those of retention phenomena. The prognosis in chronic nephritis is dependent largely on the condition of the myocardium, and it appears to me that possibly in our efforts to preserve this reserve force referred to in the paper, we really bring about a condition more favorable to the myocardium or myocardial function; whenever we bring about such a condition by means of proper diet or otherwise, it tends to lower arterial pressure, lessen the strain on the heart, the retention phenomena become less marked, and a better functional ability of the kidney is brought about.

DR. EDWARD F. WELLS, Chicago: My paper illustrates the futility of attempting to make a suitable presentation of an important subject in the short time allotted; therefore I limited my remarks mainly to a consideration of certain tests for measuring the reserve capacity in chronic interstitial nephritis, with a well-preserved circulatory balance. In a few words I mentioned the fact that under certain circumstances, especially with a failing circulatory balance and a consequent nutritional disturbance, the tests mentioned are inapplicable. It must be clearly apparent that the tests mentioned are crude, but, rudimentary as they are, the methods are those which I have found available and useful for testing the urinary capacity of my patients. To these there should be added a study of the functional capacity of all the organs engaged in the preparation for urinary excretion. Those presented I should be pleased to have considered simply as a beginning of work along these lines, with the confident expectation that, intelligently practiced, they will be found as useful in the malady mentioned as are similar procedures in the study and management of diabetics. My object has been to extend our diagnostics—making a therapeutic and a prognostic diagnosis, if you will allo wthe terms; nevertheless, certain beneficial therapeutic results were obtained from the tests employed. However, I do not wish to lay any undue stress on this point.

TREATMENT OF DIABETES MELLITUS *

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It is impossible in a paper of this kind to consider more than the most important points in the treatment of diabetes mellitus. The various special treatments that have been recommended for this condition cannot be discussed. A bibliography will be appended, but no attempt will be made to give any extended references to the many excellent papers that have appeared on the subject. The object of this paper is to call attention to certain well-defined principles which must govern the treatment of this serious and stubborn disease, if any satisfactory outcome is to be hoped for.

While this paper deals only with the treatment of diabetes, it is necessary for purpose of clearness to refer briefly to the etiology of the disease. A small percentage of cases are caused by some severe pre-existing pathologic condition that removes them from consideration in a paper of this kind. Such cases are those due to carcinoma of the pancreas, to syphilis, etc.

The cases that will be considered in this paper and which make up approximately 90 per cent. of all those exhibited by the patients that present themselves, are due to what may be called errors of metabolism. To assign this as a cause, however, is not to explain, for there are causes operating behind these metabolic errors. A careful study of the habits of a large number of diabetics convinces me that one of the most fertile causes of diabetes mellitus is a long-continued toxemia or auto-intoxication due to gross errors in eating. There are, of course, other causes: oft-repeated emotional excitement, the excessive use of starches or of alcohol, arteriosclerosis, that undefinable something which, for want of a better name, we call the gouty diathesis; heredity, sometimes associated with exophthalmic goiter—all these seem to play a part in the etiology of this disease; but by far the most important cause is the one first given, errors in diet.

WHAT CONSTITUTES A CURE

It should be impressed on the patient that a "cure" of this disease is not possible in the sense in which he understands a "cure," viz., that after the glycosuria has been overcome he may go back to his old habits of diet. He should be told that after his apparent recovery, continued care in eating is essential to his continued health. As well might a consumptive in whom the tuberculous process has been arrested by careful treatment expect to go back to foul air, insufficient light and lack of nourishing food and remain well, as a diabetic to keep his urine sugar-free while violating the very dietetic rules the disregard of which brought on his trouble.

DIETETIC ERRORS A FREQUENT CAUSE

In the past twenty years I have treated somewhat over 1,100 diabetic patients. A careful study of these cases has impressed me with the fact that the great majority of patients who suffer with this disease do so because, through ignorance, they have grossly abused their systems with the quantity, quality and kind of food used. Too much food, bolting the food so as to preclude proper insalivation, reading, thinking deeply or worrying while eating, using uncooked or but partly cooked starches—all these are contributory causes to that deranged metabolism which exhibits itself as diabetes. Particular stress should be laid on the viciousness of the prevalent habit of using large quantities of carbohydrate foods in which the starches are practically in an uncooked state, baking-powder biscuits, batter cakes, corn-bread, waffles, various forms of crackers—especially the Graham cracker, so largely eaten under the mistaken idea that it has an extraordinary food value—all these forms of starchy food are bad and contribute in no small degree to recruit the increasing army of diabetes. These causes will be taken up in greater detail as the treatment of the disease is considered.

The value of any treatment for any disease must be judged by results. And the results must have been obtained not in a few isolated cases but in a long series of cases. In order to make clear whether the treatment about to be described is worthy of consideration a table is appended of the cases of all the patients treated from May 1 to Dec. 1, 1910, giving the age of the patient, the duration and severity of the disease and the result of the treatment.

This table, of course, is but the briefest of outlines and is intended only to emphasize the results of the treatment. While more or less complete histories of more than 1,100 cases could be given, such a tabulation would be out of place in a paper of this kind. Before closing, a typical case-history will be given in detail with the treatment.

OBJECTIVE POINTS IN TREATMENT

In treating the class of diabetics with which this paper deals there are four objects to be kept in view:

1. To free as nearly as possible the blood and other tissues from sugar; to do this it is necessary—
2. To find the individual patient's tolerance for carbohydrate and if possible to increase that tolerance;
3. To find a diet that will furnish the necessary calories without, at the same time, increasing the sugar intake; and
4. To prevent, by dietetic or other measures, the constipation with which the majority of these patients suffer and which increases the toxemic condition.

The first thing to impress on the patient is the fact that this disease—in the class of cases under consideration—is one that possibly has been years in developing and that it is useless and hopeless for him to expect to obtain any relief in a short time. The changes which a long-outraged system has undergone are such as cannot be remedied in a week or a month. In diabetes, more than in almost any other disease (unless it is tuberculosis), the help and cooperation of the patient is absolutely essential to successful treatment.

FUTILITY OF DRUGS

Another fact to be emphasized is the futility of drugs in the treatment of this disease; futile, because harmful habits cannot be cured by drugs. A large percentage of the patients who present themselves bring with them

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

PATIENTS TREATED FROM MAY 1 TO DECEMBER 1, 1910

Sex.	Patient.	Age.	Duration of Disease in Months.	Complications.	Sp. Gr. Urine before Treat.	Duration Treatment in Weeks.	Sp. Gr. Urine after Treat.	Condition at End of Treatment.	Report 1/6/11
F.	H. A.	27	5		1.032	4	1.016	No sugar	No report.
F.	W. H. A.	36	27		1.040	6	1.018	Trace sugar	Died 4/11.
F.	J. A.	62	24		1.036	7	1.014	No sugar	No sugar.
F.	G. A.	34	3		1.030	5	1.015	No sugar	Trace sugar.
M.	F. A.	51	24	Diabetic cataract	1.045	7	1.016	No sugar	No sugar.
F.	H. B.	38	7		1.042	5	1.016	No sugar	No report.
M.	F. W. B.	40	6		1.038	4	1.013	No sugar	No sugar.
F.	F. B.	32	2		1.035	2	1.017	Transitory case	
M.	A. S. B.	65	5	Arteriosclerosis	1.030	6	1.018	No sugar	No report.
F.	L. B.	69	18	Arteriosclerosis	1.028	3	1.016	Trace sugar	No sugar.
M.	B. M. B.	41	11		1.038	5	1.014	No sugar	No sugar.
M.	S. J. B.	63	16	Arteriosclerosis	1.026	2	1.016	No sugar	No sugar.
M.	D. B.	54	20	Pulmonary tuberculosis	1.040	7	1.018	Trace sugar	Died 1/18/11.
M.	H. B.	57	9		1.036	8	1.015	No sugar	Trace sugar.
F.	E. B.	68	60	Arteriosclerosis	1.030	4	1.012	No sugar	3% sugar.
F.	L. B.	56	14		1.028	3	1.014	No sugar	No report.
M.	L. B.	17	6		1 042	9	1.017	No sugar	Died 3/11, septicemia.
F.	S. M. B.	56	24	Gangrene toe	1.040	4	1.016	No sugar	No sugar.
M.	L. B.	14	5		1.015	12	1.015	No sugar	No sugar.
M.	H. C.	41	4		1.036	3	1.014	No sugar	No sugar.
M.	A. C.	54	17		1.028	5	1.015	No sugar	No report.
M.	C. W. C.	49	22	Pulmonary tuberculosis	1.034	7	1.018	Trace sugar	No report.
M.	S. C.	45	27		1.045	8	1.012	No sugar	No sugar.
F.	M. C.	67	14	Arteriosclerosis	1.042	4	1.012	No sugar	Trace sugar.
M.	R. L. C.	24	7		1.040	7	1.016	No sugar	No report.
M.	M. C.	44	15		1.036	3	1.012	No sugar	No sugar.
F.	H. C.	47	20		1 034	4	1.016	No sugar	No sugar.
M.	A. C.	44	7		1.038	3	1.014	No sugar	Trace sugar.
M.	W. H. D.	54	11		1.041	5	1.016	No sugar	No sugar.
M.	F. D.	14	13		1.048	6	1.015	No sugar	3% sugar.
M.	L. D.	36	5		1.037	6	1.016	No sugar	Trace sugar.
F.	B. F.	19	4		1.048	7	1.014	No sugar	No sugar.
F.	H. F.	47	14		1 036	5	1.016	No sugar	No report.
F.	C. F.	50	9		1.034	4	1.018	No sugar	No sugar.
M.	J. F.	47	11		1.028	3	1.016	No sugar	No report.
M.	G. E. F.	30	4		1.032	2	1.017	Trace sugar	No report.
M.	W. G.	59	13		1.038	3	1.014	No sugar	No sugar.
M.	D. G.	40	5		1.041	6	1.015	No sugar	No sugar.
F.	I. G.	44	11		1.038	5	1.017	No sugar	No sugar.
F.	G. G.	47	14		1.040	4	1.016	No sugar	No report.
F.	W. G.	48	8	Carbuncle neck	1.047	7	1.015	No sugar	1% sugar.
F.	J. G.	44	7		1.036	4	1.018	Trace sugar	No report.
M.	W. H.	54	14		1.028	6	1.016	No sugar	No sugar.
F.	J. J.	58	48		1.040	4	1.016	No sugar	No report.
M.	S. K.	30	5		1.047	6	1.015	No sugar	1% sugar.
F.	G. K.	44	11		1.034	3	1.014	No sugar	No sugar.
F.	C. L. K.	16	7		1.046	10	1.015	No sugar	No sugar.
M.	G. M. K.	32	9		1.040	7	1.016	No sugar	No report.
F.	L. L.	56	24		1.038	6	1.014	No sugar	No sugar.
F.	K. M.	49	12		1.034	3	1.012	No sugar	No sugar.
F.	C. M.	54	14		1 036	4	1.014	No sugar	1% sugar.
F.	K. M.	56	7		1.034	2	1.016	Trace sugar	1% sugar.
M.	L. M.	36	11		1.040	5	1.017	No sugar	No sugar.
F.	S. M.	59	18	Arteriosclerosis	1.044	7	1.017	No sugar	No report.
M.	J. Mc.	48	14		1.046	5	1.015	No sugar	No sugar.
F.	G. M.	53	20		1.033	4	1.012	No sugar	No sugar.
M.	L. M.	39	15		1 038	5	1.016	No sugar	No sugar.
M.	J. McN.	49	15		1.047	4	1.014	No sugar	1% sugar.
M.	Dr. McG.	66	12	Arteriosclerosis	1.044	6	1.012	No sugar	No sugar.
M.	C. N.	45	8		1.046	10	1.014	No sugar	No sugar.
M.	H. J. M.	48	11		1.040	3	1.014	No sugar	Died coma, 3/11.
M.	D. N.	28	4		1.044	8	1.014	No sugar	No sugar.
M.	F. R. N.	47	14		1.046	4	1.014	No sugar	No sugar.
F.	H. P.	48	2		1.038	5	1.014	No sugar	2% sugar.
F.	J. R.	49	11	Gangrene toe	1.042	7	1.016	No sugar	No report.
M.	H. R.	66	7	Arteriosclerosis	1.036	5	1.012	No sugar	Died, 1/11.
F.	A. R.	46	15		1.040	4	1.014	No sugar	No sugar.
M.	T. R.	57	18		1.030	3	1.014	No sugar	Trace sugar.
M.	N. S.	55	16	Dim sight	1.036	4	1.012	No sugar	No sugar.
M.	F. S.	24	9		1.044	5	1.016	No sugar	No sugar.
F.	L. B. S.	63	24	Arteriosclerosis	1.038	4	1.012	Trace sugar	No report.
M.	T. L. S.	52	11	Arteriosclerosis	1.040	3	1.014	No sugar	No sugar.
M.	L. S.	49	18	Albuminuria	1.042	7	1.015	No sugar	No sugar.
M.	A. S.	56	15	Eye sight failing	1.039	2	1.016	Trace sugar	1% sugar.
M.	L. S.	23	13	Pulmonary tuberculosis	1.047	2	1.020	Died while under treatment	
F.	B. S.	64	25	Arteriosclerosis	1.036	5	1.012	No sugar	No sugar.
M.	H. U.	62	17	Arteriosclerosis	1 032	7	1.011	No sugar	Died, 3/11.
M.	J. A. W.	40	9		1.042	5	1.014	No sugar	No sugar.
F.	T. E. W.	52	11		1.038	3	1.012	No sugar	No report.
F.	A. W.	47	7		1.040	5	1.014	No sugar	No sugar.
F.	J. W.	38	5		1.042	3	1.014	No sugar	No sugar.
M.	C. W.	59	13	Arteriosclerosis	1.034	6	1.012	No sugar	No report.
M.	A. Z.	45	7		1.042	4	1.016	No sugar	0.5% sugar.

SUMMARY

Number cases		83
Number patients died		7
Cause of death	Diabetic coma 3 Septicemia 1 Gangrene 1 Pneumonia 2	
Number glucose-free		40
Number temporarily glucose-free		16
No report received from		19
Number died under treatment		1

their bottles of codein and that worse than useless nostrum, Arsenauro. It is an unfortunate fact that many physicians still seem to harbor the belief that arsenic when prescribed under a proprietary name possesses virtues not to be found in the official preparations and, moreover, that it has lost the dangerous qualities inherent in it. I have seen so many patients with the codein habit and aggravated cases of constipation superimposed on the diabetes, and so many with wrecked digestive systems due to the long continued use of Arsenauro and other arsenic solutions, that I must utter a word of warning against the use of these drugs.

Too much stress cannot be laid on this point. Codein and arsenic may have their uses in a limited number of cases, but in the great majority of cases they should be left severely alone. If these drugs were merely worthless, there might not be any serious objections to their use, but they are a positive detriment and their continued use lessens the patient's chances of recovery. Not only that, but whenever a drug is given to a diabetic he is usually less careful in his method of living than if he realizes that his recovery depends on diet and hygiene alone.

QUANTITY OF FOOD IMPORTANT

One other essential must be made plain to the diabetic and that is the quantity of food eaten is just as important as the kind of food. Too often the patient suffering with diabetes is told to purchase gluten flour or gluten breads (most of which are frauds), and no limitation is put on the amount of these products that may be eaten. It is a fact that many mild cases of diabetes will show a diminution of sugar in the urine almost to the vanishing point when the patient is merely compelled to eat a very moderate ordinary diet. That is to say an antidiabetic diet is not always necessary to reduce the glycosuria; a reduction in the amount of ordinary food will sometimes accomplish the same end. So much for general directions.

WEIGHING FOOD NOT NECESSARY

It may be said in passing that the attempt to have the patient weigh his food does not give the satisfactory results that might be thought. It is more important to educate the diabetic to control his appetite by sheer force of will than it is to induce him to depend on the scale for his food allowance. Few patients will continue to use a scale after they have left the physician's care, while if they have been taught to exercise judgment and self-control in determining the amount of food they may take, a habit will have been formed that will be their salvation.

For drinking, copious draughts of some mildly alkaline water are desirable. The water should have sufficient salts in solution to increase slightly its natural diuretic effect. Distilled water should not be used, at least for any length of time.

The diet should, at first, be restricted as nearly as possible to proteids and fats, unless the patient shows signs of acidosis or impending coma, in which cases carbohydrates must be cautiously given. It is very essential that the food of the diabetic be well cooked, so as to tax to the smallest degree the weak digestive system. As the glucose diminishes, fresh vegetables may be added to the dietary, but of such quantity and kind as not to exceed 4 per cent. carbohydrate. Again it should be stated that the quantity of all food—even if it is carbohydrate-free—must be greatly restricted. The number of calories that the body ordinarily requires is no safe criterion of the amount of food that should be given a diabetic. It is not the quantity of food that should be metabolized, but the amount that can be metabolized, that should determine the amount given to the patient. All in excess of the quantity that the patient can actually use burdens the already overtaxed excretory organs and retards improvement.

OIL IN CONSTIPATION

Olive oil and castor oil, both for the food value and the laxative effect, should be given in all cases in which there is constipation—which means practically all cases. A palatable and efficient emulsion can be made by taking equal parts of olive oil, castor oil and glycerin and emulsifying it with 4 per cent. of Squibb's or Merck's gum arabic.

Castor oil	
Olive oil	
Glycerin āā	320.0
Gum arabic	36.0
Flavoring oil (gaultheria or cassia)	1.0

The patient must have at least one daily bowel movement and should avoid the ordinary purgatives such as aloes, cascara, calomel, etc.

The diabetic should be kept mentally indolent and physically active; at the end of each day he should be tired, but not to the point of fatigue. As much time as possible should be spent in the open air, and the sleeping-room should be as well ventilated as that of a patient suffering from incipient tuberculosis.

GLUTEN FOODS

The question of carbohydrate food is, of course, the paramount problem in the treatment of diabetes. The prescribing of so-called gluten flours has, in the past, been one of the most pernicious errors met by the physician who treats diabetics. In the first place, a very large proportion of the gluten flours on the American market are practically worthless as an antidiabetic food; in the second place, physicians in prescribing these gluten flours are likely to give their diabetic patients the impression that a gluten bread is a safe bread.

Many diabetics are killed yearly in the United States from the excessive ingestion of starches taken in the form of gluten breads. Ordinary wheat flour contains from 70 to 75 per cent. carbohydrates, and most of the widely advertised American brands of gluten flour contain all the way from 43 to 73 per cent. carbohydrate. These flours are not only absolutely worthless for the diabetic, but are exceedingly dangerous, because of the false sense of security which the term "gluten bread" carries with it. A flour containing 40 per cent. of starch may be useful in cases of transient glucosuria, but it has absolutely no place in the treatment of true diabetes. It is but fair to say that there are a few diabetic flours on the American market whose starch content brings them within the limit of safety—provided the quantity eaten is most carefully gauged.

Forced some years ago, by the inability to find a safe flour on the market, to devise a starch-poor bread or biscuit I have long given my patients a bread made after the following formula:

Unground poppy-seed	3 lbs.
Ground nuts (almonds, pecans, English walnuts or filberts; or a combination of these)	8 lbs.
Eggs	12
Flour of dried spinach	1 lb.
Salt	to flavor
Milk	enough to make a stiff batter

This batter, shaped into small biscuits or crackers, is baked and, if needed to be kept for any length of time after baking, is thoroughly dried at a mild heat until the moisture is reduced to 0.25 of 1 per cent. The dried biscuits are kept in hermetically sealed tin cans. Put up in this manner they may be kept indefinitely in perfect condition. These biscuits contain about 5 per cent. of carbohydrate.

The drying of these crackers is desirable because it necessitates the most thorough mastication, and thorough insalivation of food is one of the prime requisites of the successful treatment of diabetes. It is for the purpose of favoring mastication that the poppy-seeds are incorporated, although the oil they contain also increases the caloric value of the biscuit. But thorough chewing of the biscuits brings out the flavor of the poppy-seeds, and the pleasure of eating is much increased. The belief, common among laymen, that poppy-seeds contain opium, is, of course, erroneous. Of course these biscuits, like all other starch-poor products, are not so palatable as ordinary bread or biscuits. But they make a very safe and acceptable substitute for bread, and that is all that can be asked for.

SEVERE CASES

To go back to the patient: If, after two weeks of strict antidiabetic treatment the sugar does not disappear, the patient should be put to bed and placed on a diet consisting of one raw egg and 2 ounces of olive oil, three times or even four times a day, still continuing the free use of mildly alkaline drinking waters. Should the urine show the presence of diacetic acid, the oil must be reduced in quantity and small amounts of carbohydrates given—the patient, meantime, being kept in bed. Sometimes, in cases in which the system is threatened with an overwhelming acidosis, the temporary administration of small quantities of sodium bicarbonate may be tried, although I have seldom seen any good effect from it. This should be given as nearly as possible midway between meals, so as to cause the smallest degree of interference with digestion. As, however, it will cause some digestive disturbance no matter how carefully administered, its administration should not continue for any length of time.

After getting the patient to the point where the urine is sugar-free, small quantities of carbohydrates should be cautiously added to the dietary. Just as the presence of sugar in the blood establishes a vicious circle and causes the system to become still less able to "burn up" the sugar, so the absence of sugar gives the organism a greater tolerance for this necessary food. The carbohydrate should be added gradually, first at one meal only each day, and that meal preferably breakfast, as metabolism seems more active at that time. As systemic tolerance is increased, the starchy foods may be added to other meals until the point is reached where sugar appears in the urine; when this occurs, all starches should be withdrawn for a day or two and then gradually given again to a point just below that which has been shown to be dangerous.

It is better to add the starch in but one form, rather than several, as the system seems better able to adjust itself to one form of carbohydrate than to several, even though the sum total of starch be the same. What form that should be, can only be determined by experiment. Patients seem to differ in their ability to digest various forms of starch. One man may be more tolerant of bread-starch than of potato-starch; another may be unable to assimilate either bread- or potato-starch and may tolerate small quantities of oat-starch. These individual peculiarities must be ascertained and the results heeded. Another thing to be borne in mind is that all foods that are difficult for the patient to digest—whether they are starch-free or not—should be carefully avoided.

CONTROL OF THE PATIENT

Every physician who has treated many diabetic patients knows that, on the subject of eating, the diabetic is mentally unbalanced. This is true, not only regarding carbohydrate-containing foodstuffs, but regarding the quantity of all foods. Most diabetics suffer from an insatiable hunger. Successful treatment, therefore, depends wholly on the degree of control which the physician can exercise over his patient. In many cases the patients need to be watched with as much care as though they were morphin habitués undergoing antinarcotic treatment.

It is impossible to overemphasize the fact that the *quantity of food is as important as the kind of food.* It must be evident that a sick person cannot digest the same amount of food that a well person can, and it is the height of folly to permit the diabetic to eat voraciously, even of foods that are absolutely starch-free.

In the case of children it is practically always essential to put the patient in the charge of a competent disinterested person, such as a nurse. Experience has shown that relatives, especially parents, are utterly unable to withstand the tears and pleadings of the child for the deadly carbohydrates which its system craves and for which its whole being cries out. It is seemingly impossible to bring the layman to a full realization of the fact that the sugars and starches, which in health are harmless and necessary and which form so important a part of his daily dietary, are to the diabetic the most deadly and overwhelming poison. In spite of the usual doleful prognosis given in cases of juvenile diabetes, in cases in which the child can be absolutely controlled, the outlook is by no means so black as it is usually painted. This careful supervision must extend over years of time, as the child's system has to be "rebuilt."

Nor are children the only ones who need careful watching and oversight. One of the essentials to successful treatment is that the physician shall see the patient daily until the disease is well under control. A specimen of urine should be brought each day and an increase in the daily output of sugar calls for a careful inquiry into the dietetic and hygienic incidents of the day before. It should be insisted that the patient write down and bring a list of the kind and amount of food eaten each day. This not only permits of special directions being given regarding certain articles of diet, but it acts as a check on the patient. Many who would not hesitate to vary from the truth when giving a verbal account of the day's dietary will think twice before putting an untruth in writing. Printed diet lists containing general instructions should be given to every patient, while specific written directions should be given to every individual according to his needs.

Diabetes has already been compared to chronic morphinism or alcoholism, and so far as the principles of treatment are concerned the simile is a good one. The personality of the physician is of great importance. The patient must be impressed with the need of obeying instructions. We are creatures of habit and in the diabetic there is usually a vicious dietetic habit to overcome. Without the hearty cooperation of the patient the successful treatment of diabetes is impossible.

A TYPICAL CASE HISTORY

The following case history may be given as fairly typical of the patients that make up the majority of those treated:

Patient.—Swede, aged 40, married, father of five children, a carpenter by trade, consulted Dr. A. J. Ochsner because his hands and feet were cracked and bleeding. Dr. Ochsner after diagnosing the condition as one of diabetes, did not treat the patient but referred him to me for treatment.

History.—He had the disease, to his knowledge, for about 18 months when first seen. He had taken codein and arsenauro in large doses and over a long period; had been permitted to eat all the so-called gluten bread that he wished, and no restriction had been placed on the amount of starch-free foods that he had taken. He had been given a diet slip issued by a proprietary house and permission had been granted to eat any of the foods that the list did not prohibit. Before the diabetic condition developed he had eaten large quantities of partly cooked starches, had bolted his food and had partaken of a badly balanced diet; one containing large amounts of carbohydrate.

Condition When Examined.—The patient was passing from 4 to 5 liters of urine daily of a specific gravity of 1.046. There was no albumin and but occasional casts. The skin on the hands and feet was dried, cracked and bleeding.

Treatment.—Twelve glasses (8-ounce capacity) daily of mildly alkaline water was immediately prescribed. All so-called gluten foods were immediately withdrawn and the starch-poor (5 per cent.) biscuits previously described were substituted. The amount of all food—starch-free and otherwise—was greatly reduced. Castor oil in doses sufficient to overcome the constipation was given, but no other drugs were used. The glycosuria gradually diminished and finally after four weeks entirely disappeared.

Subsequent History.—No return of the glycosuria had occurred up to the time of his death from pneumonia eleven years later, during which period he returned for examination five times at intervals of about two years. During this entire time the patient tested his own urine with urinometer regularly according to instructions that are given during treatment to all adult patients.

SUMMARY

In brief, then, the following points are essential to the successful treatment of diabetes mellitus:

1. To impress on the patient that after his apparent recovery continued care in eating is essential to continued health.
2. To dispense, as a general thing, with such drugs as codein and arsenic and to make the patient rely practically entirely on the diet and hygiene.
3. To insist on the restriction of the quantity of food just as much as of the kind.
4. To overcome constipation by the use of castor oil and olive oil or by the use of a mixture of these two with glycerin.
5. To insist that the food must be thoroughly masticated.
6. To restrict carbohydrates at the outset to the smallest possible amount consistent with safety.
7. To add starches gradually in but one form rather than in several until the point of tolerance has been reached.
8. To eliminate from the dietary those articles of food that have been found to be difficult of digestion, even in health, though their starch-content may not be objectionable for a diabetic.
9. Above all, to impress the patient with the fact that his disease is essentially the result of vicious dietetic habits and that it is useless for him to expect any favorable results so long as the habit is persisted in.

ABSTRACT OF DISCUSSION

DR. ROBERT T. MORRIS, New York: I wish Dr. Hodgson had described post-mortem examination of the pancreas in his report on cases of diabetes. An interstitial pancreatitis, toxic in origin, squeezes out the islands of Langerhans in a proportion of cases of diabetes, and this fundamental cause for some cases of diabetes has been mostly overlooked. Go back of every case of diabetes. Speak of the fundamental causes. Refer to diabetes as a symptom only. You may have to go back to a fibroid appendix, a loose kidney, eye-strain, cholecystitis and the whole chain of factors in the production of toxic influence from the bowel. This toxic influence often induces an interstitial pancreatitis, the islands of Langerhans are squeezed out and diabetes results as a terminal symptom. Anything which irritates the floor of the fourth ventricle of the brain may have diabetes as a terminal symptom. It is not enough to speak of errors of digestion when discussing the subject of diabetes. Go back a step farther and tell us what is causing the errors of digestion. Surgeons have to deal with diabetes only when the hygroscopic sugar in the blood abstracts water from all body cells, and causes surgical conditions, or interferes with repair in surgical conditions of other origin; but we know that physicians as a rule are not going far enough back in their treatment of diabetics. We know they are not going back to the primary causes for the indigestion which leads to the toxemia which injures the pancreas and ends in the symptom known as diabetes. Examine the pancreas post mortem in more cases, and give us reports on unsuspected interstitial pancreatitis.

DR. EDWARD F. WELLS, Chicago: No foundation for the treatment of diabetes can be considered complete until there has been added to the nosologic diagnosis another and broader one, which may with propriety be termed a therapeutic diagnosis. My practice is as follows: The patient, whom we will assume to be somewhat beyond middle age, continues the diet to which he is accustomed for three days, during which time daily examinations are made of the twenty-four hours' urine. He is now placed on a diet from which carbohydrates are closely excluded, and this is continued until daily analyses show absence of urinary sugar, or until it declines to a point below which it will not descend. There is now added to the diet, carbohydrates, as for example, bread, in definite amounts, which are daily increased until sugar reappears, or increases, in the urine. A daily carbohydrate dietary contingent which falls well short of the patient's glycogenic capacity, as above determined, should be his limit in this class of foods. It is interesting to note that in these cases an increasing tolerance is developed by keeping the sugar out of the urine, or by keeping it down to the lowest possible level. Therefore, about twice a year the test is repeated, in order that, should such increased tolerance develop it may be discovered and measured, with a corresponding readjustment of the carbohydrate content of the dietary. Not only does this method permit intelligent management, but it necessitates taking the patient into partnership in the study and management of his case, thereby maintaining his interest through the many years during which the treatment must continue, which is until death ensues. These patients never recover; but if they receive such proper management as may be readily given them, they need not die from, although they will die with, diabetes.

DR. HENRY B. FAVILL, Chicago: I am very much impressed by what Dr. Hodgson says as to his accomplishments in cases of diabetes taken at random, but my own success has been various and not altogether satisfactory. I have no hesitation in subscribing to the detail which he sets forth, but I have not the least expectation of securing in general the percentage of satisfactory results which he can show.

Classification of glycosuria is difficult and at present not authoritative. It is to some extent a matter of words. What is the dividing line between "glycosuria" and "diabetes"? Is there a scientific distinction? Is it a matter of degree or is it a matter of personal equation and judgment? Is it not somewhat a matter of temperament on the part of the physician who classifies? Although I am in substantial accord with what Drs. Morris and Wells have stated, I still am at sea at this classification. In the course of the year I see many cases showing sugar in the urine. I have not called them diabetes, however, unless the sugar has persisted. A case of glycosuria which clears up temporarily and remains clear for a reasonable length of time I do not call diabetes. However, what right have I to say that one is a case of diabetes and the other is not? This brings us really down to the practical question.

The broad handling of glycosuria, in my opinion, is based on a few facts. 1. There is a transitory glycosuria which is very transitory and unquestionably dietetic. 2. There is a glycosuria much more grave and largely amenable to dietetic regulation. 3. There is a glycosuria which is undoubtedly pathologic in its anatomy, which is only slightly amenable to regulation of the diet. This last is fundamentally progressive and the cases are more or less hopeless. I think we can say that we have all sorts of gradations in these questions and the question is not one particularly of a pathologic classification but a matter of judgment—that is to say, the interpretation of the practitioner.

The principles of dietetics have been thoroughly well stated, particularly with regard to limitations in amount and as to bringing the total food down to what the individual can safely handle. There is a matter which has not been mentioned which I think is of importance: the reciprocal balance between the capacities for assimilating carbohydrates and proteins. In a large percentage of patients, particularly those of a full habit, the capacity for handling carbohydrates can be pushed to a higher point by reducing the protein demand on the system. So far as my own observations have gone, individuals with glycosuria or with diabetes, who are well nourished, quite plethoric, respond quickly and favorably to the diminishing of their nitrogenous intake. The benefits from this process as a rule are greater than that from cutting down starches. I wish to emphasize also what Dr. Hodgson has said about cutting down the total food to the point of tolerance without any regard at first to theoretical caloric value.

Dr. R. Wernick, Los Angeles, Cal.: There is one thing I believe to be of importance, that has not been mentioned, pertaining to the administration of alkali by the stomach. In children, I prefer to administer the alkali by way of the bowel. The acid gastric juice stimulates both the liver and pancreas to action; and the administering of large doses of alkali by way of the stomach naturally interferes with the acidity of the stomach contents. I find that by administering alkali by the bowel I get far better results. Of course, in acute cases in which we do not want to stimulate the pancreas, we must administer alkalies by the stomach. Even after the abatement of the condition, it is advisable to give the alkalies by the bowel. Fifteen or twenty years ago, I had a horror when called on to treat a case of diabetes occurring in a child. I am glad to say, however, that in later years I have experienced a change of opinion, and I have been able to save several children. I have among my patients young girls and boys who were suffering five or ten years ago from diabetes. After acute diseases, frequently as a result of infection or inflammation, the islands of Langerhans are involved, and the functions of the pancreas interfered with, and as we often see the hydrochloric acid reappear in an acid stomach after prolonged absence, so also does the pancreas frequently resume its functions after prolonged treatment, unless, of course, the islands of Langerhans are totally destroyed.

Dr. A. J. Ochsner, Chicago: Naturally surgeons get many cases of diabetes; they come to us, or are sent, because of the accompanying gangrene. Twenty years ago we expected after an amputation of a limb because of diabetic gangrene, to have in a large proportion of cases, diabetic coma and death within forty-eight or seventy-two hours. Since that time my opinion has changed. Because of what I have learned from Dr. Hodgson I find that in my diabetic amputation cases the wounds heal by first intention. Dr. Hodgson has had these patients heal by first intention. After Dr. Hodgson has had these patients under observation for three or four weeks one cannot get them to eat anything he has forbidden. He impresses certain ideas on his patients and the patients stand by them. Some of Dr. Hodgson's patients under by observation have followed out his ideas and his directions for as long as sixteen years and have been free of sugar for this entire period of time. He goth these patients to believe that they should not eat four times as much as was necessary to be well; he got them to practice what he taught, and this, I believe, is the secret of his success in handling cases of diabetes.

I have operated on a large number of patients with pancreatitis and I have found a few suffering with diabetes; but this proportion was exceedingly small. Unfortunately, I am not in a position to make autopsies in cases of death of patients with diabetes. The same as most of you, I must go by what I find in the literature concerning the results of pancreatitis, and especially the effects of pancreatitis on the islands of Langerhans. That there is danger from pressure on the islands of Langerhans is undoubtedly true. If the patient does not die, how can we say that there is pressure on the islands of Langerhans as the result of diabetes? If we had a large number of cases coming to us for operation with pancreatitis, suffering also from diabetes, and if we could make autopsies in these cases, this point could be proved. But this is a point that is well worth bearing in mind and following out; in every case of diabetes resulting in death there should be a necropsy. Another thing of importance is to get people to understand that they are not well because of taking this, that or the other medicine; they get the idea that it is this or that medicine that cures them when, in fact, it is the dietetic treatment that results in good.

Dr. A. J. Hodgson, Waukesha, Wis.: Details are necessary, of course, but to give the details of 100 patients suffering from diabetes, especially with regard to the qualitative and quantitative values of the food, would be almost impossible. Such details would fill many books. It should be remembered that every patient must be treated individually. No set rules will apply to all. With regard to the cases of pancreatitis, I am not certain as to the causes of this manifestation of diabetes. I have met with cases of pancreatitis, but I have never yet met with anyone who could inform me as to the causes. When these patients died and were brought to post mortem, the condition was found but it was not diagnosed during life. I think, however, that the long-continued influence of the toxemia, the toxemic poison, is a sufficient cause of the degeneration found, and thus a cause of the pancreatitis. I wish to emphasize the fact that no one can have sugar in the urine for any length of time without having some pathologic changes in the body. One of the symptoms which should be looked for is the loss, or partial loss, of sight; this is not due to cataract but possibly to an anemic condition of the retina caused by the presence of sugar in the blood. Many of these conditions have been mentioned in my paper. I have never seen any benefit result from the giving of strong alkalies that has not been secured by giving large draughts of a mildly alkaline water. I do not believe that the administration of sodium bicarbonate has any value in the curing of this trouble. Give plenty of mildly alkaline water; this is far better, in my opinion, than giving the strong alkalies.

Contribution to Knowledge.—The requirement that the investigator learn what other men have done before him in the field he seeks to enlarge, gives him an unusual realization of the part he may be playing in the promotion of natural knowledge. Knowledge grows like the picture in the dissected puzzle. Every addition must fit the parts already arranged in order to possess significance, and also every addition makes possible the fitting of new parts whose positions in the enlarging picture become thereby suddenly revealed. One of the delights of research, therefore, is the sense that every bit of new knowledge finds its place in the structure of truth, and that sooner or later it will be required for the further building of that structure. The relation which the fresh contribution bears to that already established, the discoverer clearly sees; what relation it will certainly bear to further contributions he may never know. How little did the men who studied the minute differences among mosquitoes, and who recorded the breeding habits of those insects, realize their important rôle in abolishing the pestilence of yellow fever, and in bringing about the immense social and political changes which will result from that conquest!—Cannon in *Science*.

THE DETECTION AND ESTIMATION OF GLUCOSE IN URINE *

STANLEY R. BENEDICT
NEW YORK

A REAGENT FOR QUALITATIVE USE

The property possessed by glucose, in common with many other sugars, of readily taking up oxygen in alkaline solution, is almost universally employed as a means of detecting this substance in urine.

The glucose molecule itself, however, is not the active reducing substance in alkaline solution, it having been previously shown[1] that the reducing action is due to a substance formed from the action of alkali on the sugar molecule. The reducing substance thus formed is not stable toward strong alkali, and unless permitted to exhibit its reducing action at once, is rapidly decomposed into compounds which have no reducing power, if sodium or potassium hydroxid be present. Solutions of the alkali carbonates, on the other hand, form the reducing substance from glucose a little more slowly than do the hydroxids, and have little, if any, destructive action on the reducing substance after it has been formed.

From a consideration of these facts it may be inferred that the presence of the strong alkali in Fehling's fluid may, under certain circumstances, interfere with the power of this solution to demonstrate small quantities of sugar. The urine, for instance, contains compounds (chief among which is probably creatinin, as pointed out by Maclean[2]), which seriously interfere with the detection of glucose by Fehling's solution. Thus, although Fehling's solution will detect 0.001 per cent. of glucose in pure solution, at least a hundred times this amount must be present in urine to give a positive reaction with this reagent. This marked loss in delicacy of Fehling's test when applied to urine is unquestionably due to the fact that the normal reduction of the solution is inhibited for a period long enough to allow the strong alkali present to decompose the reducing substance formed from the sugar molecule. For the most part these facts were pointed out in the communication above referred to,[1] and the advantages of employing a copper solution in which alkalinity is secured by carbonate instead of hydroxid, for the detection of sugar in urine, were also mentioned.

It was shown in this connection that a solution containing copper sulphate, Rochelle salt and sodium carbonate is more than ten times as delicate a test for glucose in urine as is Fehling's solution. Not only is such a reagent delicate for the detection of sugar in urine, but it is also *more specific*, in that it is not reduced by many non-carbohydrate substances which readily reduce copper in the presence of the stronger alkali. Chloroform, chloral, formaldehyd, aldehyd, uric acid and creatinin all reduce Fehling's solution, while they are without appreciable effect on the carbonate reagent.

This reagent, however, as originally proposed, and containing copper sulphate, Rochelle salt and sodium carbonate, has a disadvantage which is common to so many of the alkaline copper solutions, in that, after mixing, it rapidly deteriorates and becomes unfit for delicate work. It has been found, however, that if the Rochelle salt in such a solution be replaced by sodium or potassium citrate, a mixture is obtained which is very sensitive for sugar detection, especially in urine, and may be kept ready-mixed indefinitely without undergoing the slightest change. This solution has the following composition.

	gm. or c.c.
Copper sulphate (pure crystallized)	17.3
Sodium or potassium citrate	173.0
Sodium carbonate (crystallized)[3]	200.0
Distilled water to make	1,000.0

The citrate and carbonate are dissolved together (with the aid of heat) in about 700 c.c. of water. The mixture is then poured (through a filter if necessary) into a larger beaker or casserole. The copper sulphate (which should be dissolved separately in about 100 c.c. of water) is then poured slowly into the first solution, with constant stirring. The mixture is then cooled and diluted to one liter.

This reagent is about ten times as sensitive to sugar in urine as is Fehling's or Haines' solution, and unlike these latter solutions, is not appreciably reduced by creatinin, uric acid, chloroform or the simple aldehyds. The mixture may be kept indefinitely in uncolored glass or cork-stoppered bottles. Samples prepared over two years ago show no detectable change. Although the reagent is very sensitive for detecting sugar in urine, normal urines give no trace of a reaction when tested with it. An examination of hundreds of samples with the solution served to demonstrate that whenever a positive reaction is obtained, pathologic quantities of dextrose are present. Homogentisic acid (from the urine of alkatonurics) or greatly increased amounts of glycuronic acid, both of which substances readily reduce Fehling's solution, will also affect the carbonate-citrate reagent, and when the presence of these substances is suspected, the urine should be tested before and after fermentation with yeast. If the reducing action of the urine is apparent after twenty-four hours' fermentation, the reduction is not due to glucose, but may be due to lactose, or to either of the substances mentioned above. Interference from homogentisic acid is exceedingly rare, and occurs from glycuronic acid only after the ingestion of drugs which lead to increased elimination of this substance.

In regard to the use of the reagent recommended in this paper, it should be pointed out that until one is familiar with its behavior the following directions should be closely adhered to. The solution is unlike Fehling's reagent in many respects, and should not be used in the same way as this latter solution. No strongly dehydrating substance (such as caustic alkali) is present in the new reagent, hence its reduction product is apt to be yellow, or even greenish-yellow (consisting of the hydrated suboxid of copper) rather than the red suboxid. For the detection of glucose in urine about 5 c.c. of the reagent are placed in a test-tube and *8 to 10 drops (not more)*, of the urine to be examined are added. The mixture is then heated to vigorous boiling, kept at this temperature for one or two minutes, and allowed to cool spontaneously. In the presence of glucose *the entire body of the solution will be filled with a precipitate*, which may be red, yellow or greenish in tinge. If the quantity of glucose be low (under 0.3 per cent.) the precipitate forms only on cooling. If no sugar be present the solution either remains perfectly clear, or shows a faint turbidity that is blue in color, and consists of precipitated urates. The chief points to be remembered in the use of the reagent are (1) the *addition of a small quantity of urine* (8 to 10 drops) to 5 c.c. of the reagent, this being desirable not because larger amounts of normal urine would cause reduction of the reagent, but because more delicate results are obtained by this procedure, (2) vigorous boiling of the solution after addition of the urine, and then allowing the mixture to cool spontaneously, and (3) if sugar be present, the solution (either before or after cooling) *will be filled from top to bottom with a precipitate*, so that the mixture becomes opaque. Since bulk, and not color, of the precipitate is made the basis of a positive reaction, the test may be carried out as readily in artificial light as in daylight, even when examining for very small quantities of sugar. The solution is not dark-colored like Fehling's fluid, so that the precipitate may readily be observed without waiting for it to settle.

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* From the Laboratory of Biological Chemistry of Columbia University, at the College of Physicians and Surgeons, and under the auspices of the George Crocker Special Research Fund.

[1] Benedict: Jour. Biol. Chem., 1907, iii, 101.

[2] Maclean: Biochem. Jour., 1907, ii, 156.

[3] One-half the weight of the anhydrous salt may be used.

A RAPID METHOD FOR THE QUANTITATIVE DETERMINATION OF SUGAR IN URINE

By modifying the composition of the solution described above, it has been found possible to apply the reagent to the rapid and accurate estimation of sugar in urine. Like the old titration process of Fehling, the method described below is based on the fact that in alkaline solution a given quantity of glucose reduces a definite amount of copper, thus decolorizing a certain amount of the copper solution. In the new method, however, instead of the reduced copper being precipitated as the red suboxid, which of its own color obscures the end-point of the reaction, the copper is precipitated as cuprous sulphocyanate, a snow-white compound, which is rather an aid than a hindrance to accurate observation of the disappearance of the last trace of blue color. The solution for *quantitative work has the* following composition:

	gm. or c.c.
Copper sulphate (pure crystallized)	18.0
Sodium carbonate (crystallized)[4]	200.0
Sodium or potassium citrate	200.0
Potassium sulphocyanate	125.0
Five per cent. potassium ferrocyanid solution	5.0
Distilled water to make a total volume of	1,000.0

With the aid of heat dissolve the carbonate, citrate and sulphocyanate in enough water to make about 800 c.c. of the mixture, and filter if necessary. Dissolve the copper sulphate separately in about 100 c.c. of water and pour the solution slowly into the other liquid, with constant stirring. Add the ferrocyanid solution, cool and dilute to exactly 1 liter. Of the various constituents, the copper salt only, need be weighed with exactness. Twenty-five c.c. of the reagent are reduced by 50 mg. of glucose.

Sugar estimations are conducted as follows: The urine, 10 c.c. of which should be diluted with water to 100 c.c. (unless the sugar content is believed to be low), is poured into a 50 c.c. burette up to the zero mark. Twenty-five c.c. of the reagent are measured with a pipette into a porcelain evaporation dish (25-30 cm. in diameter). 10 to 20 gm. of crystallized sodium carbonate (or one-half the weight of the anhydrous salt) are added, together with a small quantity of powdered pumice-stone or talcum, and the mixture heated to boiling over a free flame until the carbonate has entirely dissolved. The diluted urine is now run in from the burette, rather rapidly until a chalk-white precipitate forms, and the blue color of the mixture begins to lessen perceptibly, after which the solution from the burette must be run in a few *drops at a time, until the disappearance of the last trace of* blue color, which marks the end-point. The solution must be kept vigorously boiling throughout the entire titration. If the mixture becomes too concentrated during the process, water may be added from time to time to replace the volume lost by evaporation. The calculation of the percentage of sugar in the original sample of urine is very simple. The 25 c.c. of copper solution are reduced by exactly 50 mg. of glucose. Therefore the volume run out of the burette to effect the reduction contained 50 *mg. of the sugar.* When the urine is diluted 1:10, as in the usual titration of diabetic urines, the formula for calculating the per cent. of sugar is the following:

$$\frac{0.050}{X} \times 1{,}000 = \text{per cent. in original sample, wherein } X \text{ is the number of cubic centimeters of the diluted urine required to reduce 25 c.c. of the copper solution.}$$

In the use of this method chloroform must not be present during the titration. If used as a preservative in the urine it may be removed by boiling a sample for a few minutes, and then diluting to its original volume.

Like the reagent for qualitative employment, the one for quantitative work will keep indefinitely after its preparation. As regards the accuracy of the method, it may be stated that repeated determinations, and comparisons with results by the polariscope and by Allihn's gravimetric process have shown the method to be probably more exact than any other titration method available for sugar work.

137 West Fifty-Ninth Street.

DANGERS OF CERTAIN ETHICAL PROPRIETARY PREPARATIONS TO BOTH PHYSICIANS AND PUBLIC*

M. H. FUSSELL, M.D.
PHILADELPHIA

So much has been written on this subject that a new paper may seem superfluous. The reasons which have impelled this paper are the following:

1. My desk is continually flooded with medicaments sent by manufacturing pharmacists, and delivered by detail men who talk quasi-scientifically, and just as glibly as they did when I began to practice twenty-five years ago.
2. In mingling with other physicians I find many such mixtures and new preparations used in practice, the only excuse being the recommendations contained in literature accompanying the preparations.
3. Many such preparations are used by physicians without any knowledge of their contents or action. There can be no doubt that this use of the preparations is attended by dangers which I hope to make plain.
4. With few exceptions the preparations sent about as samples are mixtures. Now, every intelligent physician knows that if our use of drugs is to be of the least value, each prescription used must apply to the case in hand. It is literally impossible to make a cough mixture, a constipation pill, a remedy for nervousness, and so forth, that will be suitable for all cases. To teach that it is possible to do so, is most pernicious. We may as well—and indeed this often comes to pass under such circumstances—tell our patients they have pneumonia and send them to the druggist for a remedy for pneumonia. These dangers are particularly great to young men just entering the practice of medicine.

Numbers of conditions are necessary for intelligent therapeusis. Among them stand preeminently a careful diagnosis, accurate knowledge of the pathology of the condition under treatment; and an intelligent understanding of the action of the remedy to be used and what we expect to gain by its use. I realize that we cannot always make a diagnosis, that we do not always know the pathology of the condition we are forced to treat, and that we frequently use drugs and other remedies symptomatically. Indeed, as we do not know the cause of all diseases, we are in such cases forced to relieve the symptoms and correct the effects of disease and leave the cure to Nature. This is a most necessary and important duty. To allow a patient to suffer, simply because we cannot strike at the cause of the disease, would be folly. But the physician who leaves no stone unturned will find fewer of these conditions present in his work and will gradually learn to search for and treat the cause of diseases where possible.

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[4] One-half the weight of the anhydrous salt may be used.

* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

AN INTELLIGENT UNDERSTANDING OF THE ACTION OF THE REMEDY USED

Can this obtain where such mixtures as I quote below are used? As I write this, I have before me no less than thirty samples of simple drugs and mixtures of drugs which have been left on my desk within the past few weeks. Doubtless the same samples and probably many more have been left on the desk of every physician in my neighborhood. Let me analyze a very few of these preparations:

First I take up Neurosine. The label reads:

> NEUROSINE contains: 5% Alcohol, .075 gr. per oz. each. Ext. Henbane and Fl. Ext. Belladonna, .060 gr. per oz. Oil Bitter Almonds. .60 gr. per oz. Fl. Ext. Cannabis Indica.
>
> *Serial No. 299—Guaranteed under the Food and Drugs Act, June 30, 1906*
>
> NEUROSINE.
>
> The most powerful. Anti-Spasmodic
> Neurotic attainable. Anodyne and Hypnotic.
>
> FORMULA:—Each fluid drachm represents 5 grains each of C. P. Bromides of Potassium, Sodium and Ammonium; ⅛ grain Bromide of Zinc, .075 gr. per oz. pure Extracts Belladonna; .60 gr. per oz. Cannabis Indicas; .075 gr. per oz. Henbane; 7 gr. Extract Lupuli; 5 minims fluid Extract Cascara Sagrada with Aromatic Elixirs. Physicians may rely on this formula. (Beware of substitutes.)
>
> DOSE:—Teaspoonful to a tablespoonful in water, three or more times a day, as in your judgment the case may warrant.
>
> INDICATIONS:—Neurasthenia, Epilepsy, Chorea, Convulsions, Neuralgia, Headache, Delirium Tremens, Asthma, Migraine, Spermatorrhea, Whooping Cough, Alcoholism and all convulsive and reflex neuroses . . . Produces natural sleep. Neurosine contains no Opium, Morphine or Chloral. NO DETRIMENTAL AFTER EFFECTS. In female Neurosis combine Dioviburnia 2 parts, Neurosine 1 part.
>
> DIOS CHEMICAL COMPANY, St. Louis, Mo., U. S. A.

The dangers present in this preparation are:

1. There is no absolute surety that the mixture does contain 5 grains of each of the bromids mentioned, or the other ingredients in the amounts given in the formula.

2. If the maximum dose advised is used, the patient would receive 60 grains of the bromids at a dose.

3. A dose of 0.037 gr. of henbane and belladonna extract might be dangerous if prescribed indiscriminately.

4. The physician is tempted to prescribe a mixture with a fixed and unalterable relative dose of various drugs, instead of prescribing as he should, that dose of each ingredient the special patient needs. Nothing leads more quickly to slipshod methods of practice than this use of compound mixtures for a disease named, rather than for a condition existing in a given patient.

5. The remedy is sold by pharmacists under its attractive and suggestive name, thus enabling the laity to dose themselves to the full with powerful if not distinctly dangerous remedies.

Furthermore, the label is misleading. It uses the name henbane instead of hyoscyamus. The physical action of belladonna and hyoscyamus is much the same. Also, the formula begins "Each fluid *drachm* contains . . .," and continues "0.075 gr. of ext. belladonna per *oz.*" This is confusing if not misleading.

> LIQUOR SEDANS
>
> Alcohol, 30 per cent.
>
> Each fluid ounce represents:

Black Haw	60 gr.
Jamaica Dogwood	30 gr.

> Hydrastine, representing 30 minims Fluid Extract Hydrastis. Aromatics.
>
> UTERO-OVARIAN SEDATIVE AND ANODYNE
>
> Used by leading medical practitioners in the treatment of diseases peculiar to women. The prescribed dose may be mixed with a little hot water before administration, to insure its prompt effect.
>
> DOSE.—One-half to one teaspoonful (2 to 4 c.c.).
>
> Guaranteed by Parke, Davis and Company under the Food and Drugs Act, June 30, 1906. Serial No. 6.

This is distinctly a bad label. In the first place, the common name of *Viburnum prunifolium* and *Pescidia* are used, it would seem, better to attract the attention of unthinking physicians and the laity. It is certainly a stretch of imagination and anything but proper to say that the preparation is used by leading medical practitioners. I would like to know their names.

Here the laity are tempted to use something used by "leading physicians." They are led to self-diagnosis and may miss many important conditions, notably carcinoma of the uterus, from which if there is any relief, the help must come early. Indeed, the physician who uses a preparation labeled "Utero-ovarian sedative and anodyne" will almost invariably depend on what the literature tells him rather than make a careful examination and discover if the patient has a serious disease.

> DIOVIBURNIA
>
> FORMULA
>
> Every fl. oz. contains ¾ dr. each of the fl. Extracts:
> *Viburnum prunifolium,*
> *Viburnum opulus,*
> *Dioscorea villosa,*
> *Aletris farinosa,*
> *Helonias dioica,*
> *Mitchella repens,*
> *Caulophyllum thalictroides,*
> *Scutellaria lateriflora.*
>
> Prepared exclusively for physicians' prescriptions.
>
> Dioviburnia contains: 18 per cent. Alcohol.
>
> Guaranteed under the Food and Drugs Act, June 30, 1906. No. 299.
>
> NOTICE
>
> The attention of the medical profession is called to this preparation on account of its unquestioned value as a uterine tonic and anti-spasmodic.
>
> For indications read pamphlet around this bottle.

This is an especially pernicious form of preparation. In the first place, the value of the drugs is extremely problematic. In the second place, there are eight different drugs, and one fluid ounce of the preparation, according to the label, contains ¾ dr. each. The way the label is printed (3—4 dr. each) might easily lead to the thought that each ounce contained 3 drams or 4 drams of each extract.

Here the physician plays into the hands of unknown men and administers to patients drugs of unknown value in impossible doses. The patient is deceived and the doctor hoodwinked. Can the reader conceive of a more pitiable condition of both patient and physician, than where the physician is driven either through ignorance, indolence or cupidity to use such drugs in such a manner?

GERMILETUM.—Alcohol 18 per cent.; Formalin ¾ M. per oz. Amylacetate ⅓ M. per oz. Guaranteed under the Food and Drugs Act, June 30, 1906. Serial No. 299.

GERMILETUM

(Gim)

A perfect Antiseptic Germicide and Deodorant. Slightly Alkaline.

For internal and external use.

UNEXCELLED IN CATARRH AND ECZEMA

Par-Excellent in Obstetrical Practice.

FORMULA.—Borohydrofluoric Acid. Borosalybenzoic Acid, Boroglycerine, Formaldehyde with Menthol, Thymol Amyl Acetate and other Antiseptic Aromatics.

DIOS CHEMICAL CO., St. Louis, Mo.

The formula for Germiletum may safely be called a fake.[1] It is almost criminal to call a mixture like this "par-excellent in obstetrical practice." The dangers are great; there is no certainty, judging from the label, that it is the least value as an antiseptic. To depend on such material is to bring a blush of shame to the school from which we graduated. If there is any one condition which demands rigid antisepsis, it is our obstetrical work.

Let us analyze this "par-excellent" remedy. It contains 18 per cent. of alcohol. Alcohol is certainly valueless in this dilution. Formalin ¾ M. per ounce. I am uncertain what M. represents, possibly a meter. M. is an abbreviation sometimes used for minim. But judging from the odor entirely, there is about as much formalin in the preparations as there is in spring water.

Amylacetate is not mentioned so far as the writer knows in the eighth revision of the Pharmacopeia, and the National Standard Dispensatory (page 168), says: "It is a good solvent for resins, used as a component of fruit essences and as a solvent of resins in the preparation of lacquers and varnishes."

Neither borohydrofluoric acid nor borosalybenzoic acid is indexed in the "Dispensatory."

I repeat that to use such an article as this is to invite the dangers of inaccuracy and omissions.

SYRUP COCILLANA

COMPOUND

Each fluidounce contains:

Alcohol	5 per cent.
Heroin Hydrochlorid	8-24 grains
Tincture Euphorbiapilulifera	120 minims
Syrup wild lettuce	120 minims
Tincture Cocillana	40 minims
Syrup Squill Compound	24 minims
Cascarin (P. D. & Co.)	8 grains
Menthol	6.100 grains

DOSE.—One-half to one fluid-drachm (2 to 4 c.c.).

Guaranteed under the Food and Drugs Act, June 30, 1906.

I have called attention to this preparation before. Is it safe to spread broadcast a preparation that would give 1/24 gr. of heroin to each full dose? No wonder the drug is a good repeater. The laity buys it, the physician prescribes a lot of useless materials and get 1/24 gr. of heroin as the result.

Cocillana, from which the mixture gets its name, is the bark of *Guaria rusbyi,* a tree found in Bolivia. Its action is said to closely resemble that of ipecac. Can anyone suggest a more pernicious method of practicing medicine than using this mixture or any like it for coughs? One thing is certain, to my mind, the man who uses it rarely makes a diagnosis and the firm which sells it helps him in slipshod methods of practice.

ANTIPHLOGISTINE

INDICATIONS

Antiphlogistine can be used in

Pneumonia
Bronchitis
Pleurisy
Osteitis
Periostitis
Sprains
Felons
Sunburn
Metritis
Vaccination Sores
Chronic Ulcer
Swollen glands
Boils
Buboes
Orchitis
External Piles
Moist Eczema
Erysipelas
Frost Bites
Croup
Inflammation of Bowels
Peritonitis
Tonsillitis
Poisoned Wounds
Inflamed Breasts
Bruises
Abscesses
Endometritis
Synovitis
Dysmenorrhœa

And whatever inflammation or congestion is a factor and local treatment is indicated.

Antiphlogistine is a notorious clay preparation. Notwithstanding the Pharmacopeia has added a preparation, cataplasma kaolini, which is said to resemble closely this preparation, it is little less than dangerous for the patient to use it in this line of ailments. Think of trifling with it in croup and peritonitis, to say nothing of pneumonia!

Croup should be held up to the laity as quite possible diphtheria. To persuade the parents of a child to apply clay to the throat is in the first place to do no good, and in the second place to invite danger, both to the individual suffering and to the family, for fear of diphtheria.

Pneumonia needs prompt treatment by rest and fresh air, not by clay.

Osteitis brings terrible results in its train. A physician knowing a patient to have osteitis and applying any clay preparation is recreant to his charge.

In regard to peritonitis, what has surgery taught us? That peritonitis has a cause: that this cause must be removed surgically, if our patient is not to risk his life.

ALKALOL

0.05 per cent. Alcohol

Is agreeable, non-toxic, non-irritant: combines correct alkalinity with a mild sedative and astringent action. Gives best results when used from one-half to full strength and frequently applied; particularly adapted to treating acute or chronic conditions in nose, throat, eye and ear. Cleansing and soothing when applied to any irritated or inflamed surface. A refreshing mouth and tooth wash in illness and health. In nasal or pharyngeal catarrh, hay fever, asthma, acute cold in the head, follicular tonsillitis, diphtheria or scarlet fever, it will keep nose and throat clean and add much to the patient's comfort. For burns, bruises, insect bites, ulcers, or any local inflammation, constant application by means of saturated gauze or cotton is desirable. Internally, Alkalol may be given in teaspoonful or tablespoonful doses.

Original Package, 8 oz., 50 cents; 16 oz., 75 cents.

ALKALOL CO., Taunton, Mass., U. S. A.

This is a famous alkaline wash; certainly no better, where it is useful at all, than normal salt solution and useless in asthma and diphtheria.

And so I might go on through my whole list of thirty samples. Indeed, I might go further as I have done in another article and beseech you to avoid using the compound remedies found in the Pharmacopeia. They all have the common fault of ready-made prescriptions. They are "one-sized suits for a mass of men" and further, many of them are mere copies of well-known patented formulas.

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[1] 1. Reports of Chem. Lab. Am. Med. Assn., iii, p. 11.

Why are such preparations used? Because we as physicians do not take pains for the best and because by our use of a drug firm's compound, we make it possible for them to sell. Do we not know that every time we prescribe a firm's special mixture, we make it possible for a patient to drug himself both to our loss and to his detriment? Since this article was written, indeed after I had started on my journey west, President Taft, in a most forceful message to Congress, has this to say about patented nostrums and the Food and Drugs Act:

> The Supreme Court has held in a recent decision (United States vs. O. A. Johnson, opinion May 29, 1911) that the Food and Drugs Act does not cover the knowingly false labeling of nostrums as to curative effect or physiological action and that inquiry under this salutary statute does not by its terms extend in any case to the inefficacy of medicines to work the cures claimed for them on the labels.
>
> It follows that, without fear of punishment under the law, unscrupulous persons, knowing the medicines to have no curative or remedial value for the diseases for which they indicate them, may ship, in interstate commerce, medicine composed of substances possessing any slight physiologic action and labeled as cures for diseases which, in the present state of science, are recognized as incurable.
>
> An evil which menaces the general health of the people strikes at the life of the nation. In my opinion, the sale of dangerously adulterated drugs or the sale of drugs under knowingly false claims as to their effect in disease, constitutes such an evil and warrants me in calling the matter to the attention of the Congress.
>
> Fraudulent misrepresentations of the curative value of nostrums not only operate to delude purchasers, but are a distinct menace to the public health. There are none so credulous as sufferers from disease. The need is urgent for legislation which will prevent the raising of false hopes of speedy cures of serious ailments by misstatements of fact as to worthless mixtures on which the sick will rely while their diseases progress unchecked.
>
> At the time the Food and Drugs Act was passed, there were current in commerce literally thousands of dangerous frauds labeled as cures for consumption and all lung diseases, cures for all kidney, liver and malarial troubles, cures for diabetes, cures for tumor and cancer, cures for all forms of heart disease in fact, cures for all the ills known at the present day.
>
> Unfortunately the statements were not true. The shameful fact is that those who deal in such preparations know they are deceiving credulous and ignorant unfortunates who suffer from some of the gravest ills to which the flesh of this day is subject. No physician of standing in his profession, no matter to what school of medicine he may belong, entertains the slightest idea that any of these preparations will work the wonders promised on the labels.

I might add to President Taft's sentence: "There are none so credulous as sufferers from disease," or physicians whose libraries are filled with circulars issued by drug firms. I believe that every physician in the United States, indeed every physician in the world, will agree with what President Taft has said so well. His words, I believe, must carry home to every one of my readers the points I wish to make. We, as physicians, have no right to prescribe for a patient anything but that which we know is for his greatest good. We can never fulfil this necessity by using such preparations as I have mentioned. It makes no difference whether the firm is unknown or whether it has a great name. I believe that we are perilously near being worthy of Taft's criticism of using preparations of which the statements are not true when we prescribe in such a manner, and I believe that firms who wheedle uneducated or young and inexperienced physicians into using such preparations are as guilty as the dispenser of a nostrum which he knows to be valueless.

ABSTRACT OF DISCUSSION

DR. THEODORE G. DAVIS, Los Angeles: I believe with Professor Schneider that the reason medical men of to-day use these proprietary preparations is that they know nothing about medicine, for they have not been taught medicine. They know nothing about the drugs they use. All they practically care for appears to be the dose. You cannot get the younger medical students of to-day to study pharmacology and therapeutics. I have taught students in materia medica therapeutics and clinical medicine and can speak from personal experience. The young men of to-day, especially in the state of California (I know it to be absolutely true) pay little or no attention to these subjects because they are not examined in therapeutics and materia medica. Four out of eleven students who were denied a passing mark in an examination that I gave were, without any consideration as to what their ratings were in my examination, passed in materia medica and therapeutics. The only way, I think, is to take the first year in pharmacy, as Professor Schneider has outlined, and let them know the drugs they are to use. They do not know one drug from another. Indeed, I became absolutely disheartened and disgusted in endeavoring to teach, and resigned from the position. It is true not only in California, but elsewhere. The young men of to-day do not study medicine and do not know how to treat the symptoms of disease. They have been taught anatomy, surgery, pathology, bacteriology and diagnosis, yet, as I have said to my classes, "What difference does it make to your patients whether you make a diagnosis or not if you cannot relieve them? If you do not know what to use, except some surgical procedure, what good does it do your patients?" A therapeutic diagnosis should be made with as great care as a pathologic diagnosis. I think that point of view is the point of view from which medical schools should take up the question.

DR. F. E. STEWART, Philadelphia: Dr. Fussell's paper deals with problems of great importance to the profession of pharmacy as well as to the profession of medicine. The term "ethical" as applied to monopolized materia medica products seems to me a misnomer. I can see nothing ethical in the so-called proprietary medicine business. The principle on which medicine and pharmaceal practice is based is altruism. True pharmacy is a branch of medicine and its practitioners are under the same ethical obligations to the profession and to the public as physicians. There can be no two codes of ethics, one for the physician and another for the pharmacist and manufacturer of materia medica products. The dangers referred to by Dr. Fussell would all disappear if both professions would live up to their ethical obligations.

MR. LIGHTHEART, Sacramento: I have had various experiences with various physicians and I can answer in a way some of the questions that have been brought up. I see these things from a different point of view altogether. I am known as an ethical crank. I do no counter-prescribing because I think it is criminal. It is not allowed to go on in my business, but we have physicians who, for instance, advertise listerine. Who started that kind of a proposition? No one but the physicians. The same is true of other preparations. It is only a few years since we had a counter-trade on liquor antisepticus alkalinus. Who but the physician started the laity, by handing it out to his patient? Do not blame the pharmacist for all of these things; he is only too glad to put up prescriptions. I do not want to sell a "patent medicine." I try to persuade people to go to physicians. What do I get? I persuade John Smith to go to a physician; that physician sends that patient to his favorite druggist. I not only lose what little I would make on this particular transaction, but I lose all his patronage. This is a broad question. There is just as much wrong done on the side of physicians as on that of the pharmacists. It has been stated that the average physician does not know how to write a prescription. It was only the other day that I received a prescription containing strontium bromid and aromatic spirits of ammonia. A little while before I had one containing strychnin and strontium—therapeutically and chemically incompatible. I wish that physicians would come to us and say, "Here, can I write such a prescription?" They do it with me. They ring me up on the telephone. I do not see that it belittles the physician to ask the pharmacist. If we come together as scientific and broad-minded men we will accomplish what we desire. Otherwise we will never get anywhere.

DR. M. H. FUSSELL, Philadelphia: I do not know how we are going to get the men who are prescribing these things to cease unless we hold up to their eyes the foolishness of such things. I know that unquestionably the best thing to do is to get the boy before he gets out of college, and that is what we are trying to do. Some years ago in Boston I read an article, for which I was belabored for about a year, on dispensing versus prescribing. I took the ground that it was the duty of the man who lived in a city where he had competent pharmacists to prescribe and not to dispense. In my own particular neighborhood, which is one of the outlying wards of Philadelphia, twenty-four of the twenty-seven physicians living and practicing there do their own dispensing. Now that, I think, is not right. Possibly it was not of any use for me to read my paper, but I am going to continue to write and speak on these lines.

THERAPEUTICS OF ABNORMAL HEART RHYTHM

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NEW YORK

A clear understanding of the manner in which disturbances of the cardiac rhythm are produced, and of the meaning of such disturbances, is so important to their intelligent management that I feel justified in presenting this subject, though I have nothing original or new to offer. While this subject has received the attention of many physiologists and clinicians, it is still a mystery to a large proportion of general practitioners, some of those we much respect not hesitating to admit that they "know nothing about it." This apathy cannot be too soon dispelled and it is therefore imperative that practitioners of medicine have this subject so frequently brought to their notice that they will be compelled to study it.

Whether we are ready to admit the correctness of the myogenic theory of cardiac action or not, it must be admitted that studies conducted with this theory as a basis have led to a much clearer understanding of cardiac function, and made possible an analysis of disturbances of cardiac rhythm, which in turn has made treatment of them less empiric than formerly was the case. Just as the recognition of a heart murmur is to some men, even to-day, an indication for treatment of that heart, no matter how well it may be acting, so, to very many more, is the appearance of a disturbance of rhythm a cause for anxiety and the issuing of a bad prognosis, followed by superfluous treatment, medicinal and other.

Incorporated in the adult heart is some tissue which is recognized as the remains of the primitive cardiac tube, and which is of great importance in the functioning of the heart. Modifications of this tissue lead to modifications of the normal functions. Normally, the *most irritable part of this tissue is that situated at the* mouth of the superior vena cava, called the sinoauricular node (Keith; Flack). Here the cardiac contraction is started and the contraction wave is then passed along to the rest of the heart. This node is therefore called the "pace-maker" of the heart's action. Some fibers of the primitive cardiac tissue are probably also scattered throughout the auricular wall, but, because not gathered in any bundles or masses, are harder to recognize. The normal cardiac rhythm, started at the sinoauricular node, is known as the fundamental or sinus rhythm. The rest of the primitive cardiac tissue arises in the auriculoventricular node (Tawara) situated in the wall of the right auricle, near the mouth of the coronary sinus, passes as the auriculoventricular bundle (Kent; His) to the auriculoventricular septum, where it divides into two limbs, one passing down the right ventricle and the other down the left ventricle. The function of this auriculoventricular tissue is to convey the contraction stimulus from auricle to ventricle.

The cardiac muscle is possessed of the following functions:

1. The power to produce a stimulus which will excite the heart to contract: *stimulus production.*
2. The power to receive a stimulus: *excitability.*
3. The power to convey a stimulus from one part of the heart to another: *conductivity.*
4. The power to contract on being stimulated: *contractility.*
5. The power to remain to a certain degree in contraction, even when the active stimulation has ceased: *tonicity.*

A disturbance of these functions leads to a disturbance of the normal heart action. There may be a disturbance of one of these functions without any interference with the others, or, there may be a disturbance of more than one function at the same time.

Heart muscle has a quality peculiar to itself, in that, given a heart which is possessed of excitability and contractility, any stimulus being applied, which is of sufficient strength to cause a contraction, the heart will contract with all its force. The strength of contraction will in no measure be dependent on the strength of the stimulus. Heart muscle either contracts with all the power it possesses or does not contract at all. This is known as the "all or nothing" law. Contracting with all its power, the heart muscle exhausts all its stored energy and as a consequence it becomes incapable of responding to further stimulation until it has had sufficient rest to allow a certain amount of energy to be reaccumulated. This period of non-excitability is known as the "refractory period." A stimulus applied to the heart during a refractory period, will not effect a contraction. It follows *as a corollary that heart muscle cannot be tetanized.* The bearing of these facts on our subject will later be apparent.

The disturbances of rhythm in relation to the several cardiac functions are shown in the accompanying table:

TABLE SHOWING DISTURBANCES OF RHYTHM IN RELATION TO THE SEVERAL CARDIAC FUNCTIONS

Normal cardiac function	Resulting abnormality, when corresponding function is disturbed	
1. Stimulus production.	Sinus irregularity.	Youthful irregularity.
2. Excitability.	Extrasystole.	Auricular. Ventricular. Auriculoventricular.
3. Conductivity.	Heart-block (partial or complete)	Sino-auricular. Interventricular (hemisystole). Auriculoventricular (functional). (organic).
4. Contractility.	Pulsus alternans.	
5. Tonicity.	Absolute irregularity. Pulsus irregularis perpetuus. (Auricular fibrillation, Nodal rhythm).	

The analysis of abnormal cardiac rhythm into the various types, as shown in the table is much facilitated by a study of the venous pulse. This pulse reflects the variations of pressure within the right auricle, and when studied in conjunction with the arterial pulse (and apex-beat) which is the index of pressure in the left ventricle, we are enabled to compare the events occurring in auricle and ventricle at the same moment, and to determine by a comparison with what are known to be the normal relations, the existence or non-existence of disturbances in the case under investigation. For the study of the venous pulse, the internal or external jugular vein on the right side of the neck is usually chosen. The undulations in the veins are the result of the difference in pressure of blood within the veins and pressure of the atmosphere without the veins. When the pressure within is greater than the atmospheric pressure, the vein expands, and when the pressures are reversed, the vein collapses. The normal venous pulse depends on the suction-pump action of the heart. The normal relations of pressure in ventricle, artery and vein, as expressed in graphic curves, are shown in Figure 2.

While the curve obtained from the ventricle, and that from the artery (carotid, brachial or radial, according to special choice, or depending on the apparatus used for taking the tracings) are quite simple and easily understood; that obtained from the jugular is more complicated, and it may be well to here analyze the significance of the crests and vales. The essential crests are those marked *A* and *V;* the essential vales are those marked *X* and *Y.* While the crest marked *C* is of great importance in the analyses of combined tracings, it does not essentially belong to the jugular pulsation, because it is probably not dependent on increased auricular (and venous) pressure, but is transmitted from the carotid artery.

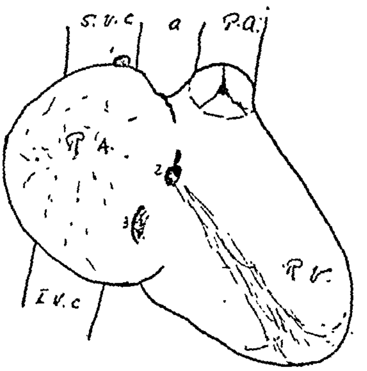

Fig. 1.—Diagram of right side of the heart. *S. V. C.*, Superior vena cava; *I. V. C.*, inferior vena cava; *A.*, aorta; *P. A.*, pulmonary artery; *R. A.*, right auricle; *R. V.*, right ventricle. 1. Sino-auricular node (Keith; Flack). 2. Auriculoventricular node (Tawara). 3. Mouth of coronary sinus. Arising from the auriculoventricular node is the auriculoventricular bundle (His Jr; Kent); which divides in two limbs, one for right and the other for left ventricle.

The crest *A* indicates a rise in auricular pressure due to the systole of the auricle. After this, the auricular pressure falls, to the point *X* (following the broken line) because of several factors; (1) the auricle relaxes after its systole; (2) the auriculoventricular valves are now closed, the ventricle is in systole, and, by virtue of its systolic contraction, it drags down the auriculoventricular septum, so enlarging the auricular cavity; (3) during ventricular systole, the heart becomes smaller in size and also blood is squeezed from the thoracic cavity into the greater circulatory tree, so increasing the negative pressure in the thorax; (4) also, at each systole, the movement of the heart in the chest pulls on the venæ cavæ, and so pumps blood from them into the auricle. While this last does not reduce auricular pressure, it does reduce pressure in the jugular vein. The crest *V*, which follows (ventricular wave; diastolic wave; telesystolic wave) indicates a rise in auricular pressure due to a storing of blood during auricular diastole and ventricular systole. This is followed by a sharp fall in pressure indicated at *Y*, this fall being due to the opening of the auriculoventricular valves which allows the blood stored in the auricle to flow freely into the ventricle. Crest *H* is of less importance, and is sometimes found during the diastolic period, in slowly acting hearts, and supposed to be due to a momentary floating up of the auriculoventricular cusps with the first rush of blood into the ventricle. This sends a wavelet back through auricle into vein. A third heart sound is described as accompanying this wave. Crest *C* is extremely important for clinical purposes. It marks the time of ventricular contraction, and so allows of measuring the time that elapses between auricular contraction, *A*, and ventricular contraction, *C*, i. e., the conduction time. It is of little clinical importance whether Mackenzie is correct in assuming this to be due to transmission of carotid pulsation, or whether it is due to a pushing up of the tricuspid valve when the intraventricular pressure rises during its systole. In either case, it marks the time of commencing ventricular systole and that is the important matter.

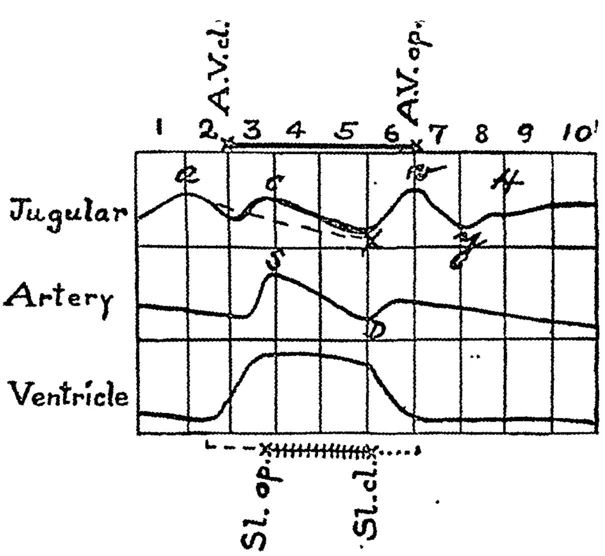

Fig. 2.—Normal relations of pressure in ventricle, artery and vein graphically represented. *A-V. cl.*, Auriculoventricular valves close; *A-V. op.*, Auriculoventricular valves open. In the interval they are closed; represented by a solid line. *Sl. op.*, Semilunar valves open; *Sl. cl.*, Semilunar valves closed. In the interval they are open; represented by a solid line with cross marks (sphygmic period); line of dashes, presphygmic period; line of dots, postsphygmic period. Time 1/10 second. (After Hirschfelder, modified.)

While the above assumes a study of the venous pulse from graphic tracings, and for accuracy these are indispensable, nevertheless the pulse is apparent to the eye, and can be seen in the veins of the neck, as a double wave. This normal venous pulse is called the double, or physiologic, or negative pulse. A venous pulse is obtainable in 80 per cent. of healthy individuals when they are lying down and the neck muscles are relaxed.

SINUS, OR YOUTHFUL IRREGULARITY (DISTURBANCE OF STIMULUS PRODUCTION).

When a normal individual takes some forced inspirations and the pulse is observed, it will be found that it becomes accelerated during inspiration, and slowed during the following expiration and pause. A pulse tracing taken from an artery will show that while the height of the pulse-waves is equal, indicating that the force of the pulse does not vary, the distance between the systolic peaks varies, indicating a variation in length of diastole. Thus, the acceleration and slowing of the pulse are at the expense of diastole. A venous tracing taken at the same time is found to be also perfectly normal except in length of intervals between pulsations, thus corresponding perfectly to the arterial pulse. When such variations appear during quiet unforced breathing, they are abnormal and constitute the sinus irregularity. This irregularity is best marked when the *heart beats slowly, for when it beats fast, the diastolic* period is shortened and hence variations in its length become less apparent. The pathologic physiology of this disturbance is a reflex, acting through the vagus nerve, its inhibitions coming to the sino-auricular node at varying rate. There is here no disease of the heart itself: the cause of trouble lies outside of the heart. One-half hour after 1/60 gr. atropine sulphate is given hypodermatically, a sinus irregularity will usually disappear.

It occurs in young individuals, neurasthenics, and convalescents from acute infectious diseases, such as influenza, etc. It usually gives rise to no subjective *symptoms.* Sometimes the patient is conscious of the irregularity. At times, the period of lengthened diastole may be so drawn out as to cause transient cerebral anemia, with syncope. It is extremely important to recognize this type of irregularity for the *prognosis* is good, even when accompanied by occasional syncope.

Treatment is usually best omitted, so far as the irregularity itself is concerned. If the underlying cause is of sufficient gravity, that should be treated. If the patient does not know of the existence of the irregularity, he should not be told, for the anxiety thus created will make it much worse, and the worry will do the patient more harm than will the sinus irregularity. The patient's family should be made acquainted with the state of affairs, for someone else may discover the irregularity and not recognizing the benign quality of it, start up trouble for the patient, family and previous physician. If any treatment is given at all, it should consist of reassurance, hygiene and nerve tonics. Probably the best drug is sodium glycerophosphate, gr. v, t. i. d. If there is anemia from the preexisting febrile disease, much fresh air, good eggs, and plenty of them, and iron in some form may be prescribed. Sexual irregularities and excesses must be tactfully inquired into and, if found, firmly suppressed.

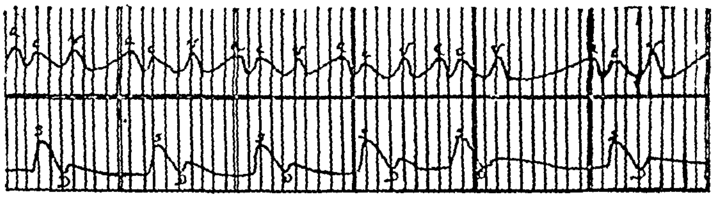

Fig. 3.—Sinus irregularity. Note height of systolic waves—*S*—is equal throughout, but distance between them varies. The venous pulse corresponds to the arterial.

EXTRASYSTOLE (DISTURBANCE OF EXCITABILITY)

While the cardiac contraction wave is normally initiated at the sino-auricular node, any other part of the remains of the primitive cardiac tissue which is found persisting in the adult heart, when rendered sufficiently irritable, may also start a contraction wave. Thus, while the sinus rhythm continues, there may be added to the contractions resulting from this, extrasystoles, due to a heightened irritability of the remaining primitive cardiac tissue. It is to be borne in mind that extrasystoles do not upset the fundamental sinus rhythm, but are interpolated, premature contractions, the impulse for them starting at some abnormal point in the heart. Depending on where these impulses start, we have (1) auricular extrasystoles, the impulse being started in the remains of primitive tissue in the auricle; (2) ventricular extrasystoles when the impulse starts in this tissue found persisting in the auriculoventricular *bundle beyond the auriculoventricular node*, or its ramifications in the ventricle, and (3) auriculoventricular (or nodal) extrasystoles, when the impulse is started in the auriculoventricular node. The several forms may be differentiated by means of polygraphic tracings (Figs. 4 and 5). (Auriculoventricular extrasystole is characterized by a shortened *a-c* interval. Beyond this I shall not discuss it.)

With the beginning of diastole, the heart muscle rests and the energy for its various functions, which during systole is exhausted, is gradually restored. Thus the refractory period of the heart terminates with the termination of systole, and the longer the heart has been in diastole, the more thoroughly are its functions recuperated and the more sensitive is it to stimuli that reach it. When conditions for starting extrasystolic stimuli are present, such a stimulus acting on the heart during diastole, even though premature, will elicit a response and contraction. It is clear that the earlier in diastole this stimulus acts, the feebler the resulting contraction and *vice versa*. Since extrasystoles are always premature, no extrasystolic contraction is as strong as a contraction which results from a stimulus started at the normal time in the cardiac cycle, when the heart's *diastole* is complete and its functional energy completely restored. Extrasystolic contractions sometimes are so premature and so weak as to be too feeble to cause the propagation of a pulse-wave to the wrist, so that it may seem, even on a sphygmographic tracing, that a heart's beat is entirely omitted, because the next normal sinus *stimulus finds the heart in contraction* as a result of the extrasystolic stimulus, hence refractory, and hence does not succeed in causing the contraction at the normal time. This is the *compensatory pause* which follows an extrasystolic contraction, and the time occupied by normal systole + extrasystole + compensatory pause, is equivalent to the time occupied by two complete normal cardiac cycles. The long pause gives the heart a longer rest than it gets during a normal diastole, as a consequence of which it responds to the next stimulus coming from the sinus with more than normal vigor, causing an abnormally large systolic wave in the pulse. A very early and feeble extrasystole which causes no wave in the arterial pulse may be recognized in a tracing from the cardiac apex, and usually also by the heart sounds. If the normal cardiac sounds may be represented as 1-2—1-2—1-2, etc., in case of extrasystole they are 1-2-3-4———1-2—1-2, etc., or, when a very feeble extrasystole, 1-2-3————1-2—1-2, etc. Also 3-4 are feebler than 1-2.

Extrasystoles may appear at regular or irregular intervals, and with varying frequency. They cause one form of pulsus bigeminus, when appearing after every other normal systole.

Extrasystoles point to a heightened irritability of the heart *(disturbance of excitability)* and this usually depends on disease of the cardiac tissue. There may be disease of the myocardium, or, more commonly, of the remains of the primitive cardiac tissue. It is found in hearts the seat of rheumatic trouble and in cardiosclerosis cases, with disease of the coronaries. It is met with in young adults, middle-aged and elderly. While some disease of the cardiac tissue is an underlying condition, functional disturbances that raise the irritability of the entire nervous system often precipitate the appearance of extrasystoles and the removal of such disturbances terminates the attack. This is especially true when it appears in rapidly acting hearts. More commonly, extrasystoles appear in slow-acting sclerotic hearts. Dyspepsia, flatulence, and indicanuria are exciting causes, as also, and quite markedly, the abuse of tobacco.

Symptoms often are absent and this, as a sinus irregularity, may be discovered by accident in the course of a routine examination. When subjective symptoms are noted, it is usually in the younger and neurotic individuals. They complain of "palpitation," and this means, either that they feel the irregular heart action, or that they notice the long pause and apparent stopping of the heart, or, what is more annoying, they feel the "thump" following the long pause and dependent on the abnormally vigorous systole occurring at such time. Rarely, the pause is so long as to cause transient cerebral anemia and syncope.

Prognosis depends on the underlying cause of the trouble. The appearance of the extrasystole in itself adds no great gravity to the condition. The recognition of an extrasystole may, however, be the first thing to attract attention to the heart at all, and a person with extrasystoles is not so good a physical risk as a normal person. Some maintain that it always points to disease of the myocardium. Also, a nervous woman may be made more nervous by the symptoms the extrasystoles cause her, and especially, by the fear of serious heart trouble which they will arouse in her. This increased nervous irritability will, in turn, aggravate the irregularity.

Treatment, again, depends on the underlying cause, and that should be treated. The condition must not be made too much of and the patient must be quieted, not excited and frightened. Worry and sleeplessness must be combated, and a run-down nervous system toned up by hygienic and hydrotherapeutic methods. Dyspepsia must be corrected, and especially should constipation and indicanuria be relieved. For the latter, as a symptomatic remedy, betanaphthol in 3 to 4 gr. doses given in capsules, three times a day, after meals, is very useful. Tobacco should be at first entirely stopped, and when symptoms have disappeared, allowed in very limited quantity. This alone frequently causes a disappearance of gastric hypersecretion and hyperacidity, which are also aggravating factors of the irregularity. As for direct drug treatment, the most important thing to remember is that digitalis, certainly in doses large enough to be of any value in a heart disturbance when it *is* indicated, should in this condition be cautiously avoided. When a heart is irregular and the circulation is so disturbed as to indicate the desirability of digitalis, the irregularity will be found to be of a different type than uncomplicated extrasystole. To small "tonic" doses, such as ¼ gr. of the powdered leaves, three or four times a day, there is no objection, and the same holds good for doses of gr. 1/200 to gr. 1/120 of strychnin sulphate, but the latter also is not to be used in larger doses. Large doses of digitalis may superadd functional heart-block to the extrasystole, for the two are not infrequently combined. Bromids and potassium iodid, the former in 20 gr. doses, t. i. d., and the latter in 5 to 10 gr. doses, t. i. d., are the most commonly useful drugs.

HEART-BLOCK (DISTURBANCE OF CONDUCTIVITY)

The normal impulse for cardiac action beginning at the sino-auricular node, may, in the progress to the rest of the heart, be partly or completely interrupted, thus resulting in partial or complete heart-block. Depending on the point where the interruption occurs, the block is classified as sino-auricular, interventricular and auriculoventricular. The commonest and by far the most important of these, at least for clinical purposes, is the last, and I shall therefore dismiss the other two forms without discussion, except to mention that it is still questionable whether interventricular block (or hemisystole) occurs at all.

Auriculoventricular heart-block may be functional or organic. Functional block is dependent on overstimulation of the vagus nerve, and while a tumor pressing on the nerve and some other still less frequent factors may produce it, the clinical factor of great importance is digitalis poisoning. Organic block is due to disease of the auriculoventricular bundle, depending on old rheumatic infiltration, sclerosis and consequent narrowing of the bundle, or, more commonly, sclerosis secondary to loss of nutrition dependent on fibrosis or sclerosis of the coronary arteries. Rarely, tertiary syphilis (gumma) may be the cause. Auriculoventricular heart-block is therefore found in middle-aged and elderly individuals, those suffering from general arteriofibrosis particularly, and in younger individuals with mitral stenosis.

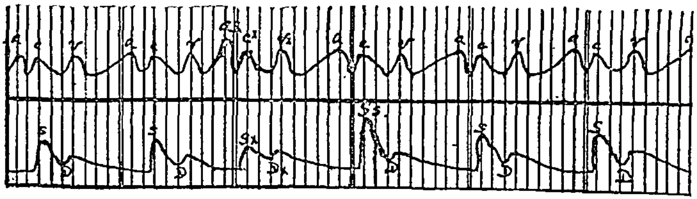

Fig. 4.—Auricular extrasystole. Note the premature auricular contraction at *Ax*, followed by a premaure ventricular systole at *Sx*, which reflects the waves *Cx* and *Vx* in the venous pulse. Note the long pause, with following large systolic wave at *Ss*. Note persistence of sinus rhythm.

On referring back to the diagram of a normal venous pulse-tracing (Fig. 2) in which the pulse is taken as beating at a normal rate (here for the purposes of greater clearness made 60 per minute) it is found that the *a-c* interval is 2/10 second. This *a-c* period is occupied by three events; (1) the auricular systole, (2) conduction of impulse from auricle to ventricle, and (3) the presphygmic period. Event 2 occupies most of this time, and is the only one that is to any degree variable. Therefore any variation in the length of the *a-c* interval, may be ascribed to variations in the rate of conduction, and factors 1 and 3 entirely ignored. A lengthening of the *a-c* interval beyond the normal is the mildest degree of block, and may for a long time be the only objective evidence of trouble. When more advanced, ventricular systoles are at intervals entirely dropped, due to the occasional failure of the impulse to pass over the bundle to the ventricle. Such dropping may occur with varying frequency at irregular or regular intervals and is preceded by a progressive lengthening of the *a-c* interval. Partial block may be so far advanced as to show a single ventricular systole to 2, 3, 4, and even more auricular systoles. When the block is complete, the auricular impulse is not conveyed to the ventricle at all, and the latter chamber assumes an independent rhythm, which is usually 30 per minute, or less. In such case, the radial pulse, while slow, has a regular rhythm, and combined tracings show no regular relation between auricular and ventricular systoles (between *a* and *c* waves of the venous pulse).

In diagnosing heart-block, the type of irregularity most likely to be confusing is extrasystole. While in the latter during the period when a pulse-beat is apparently dropped, the short extrasystolic sounds can be heard, in heart-block, no sound is audible. When polygraphic tracings are taken, the difference is quite readily made out (Figs. 4, 5 and 6).

The subjective *symptoms* vary in intensity with the degree of trouble. The especially characteristic ones, in advanced cases, are those of the Adams-Stokes syndrome; i. e., vertigo, syncope, and epileptiform attacks, with a very slow and intermittent (or regular) arterial pulse. The slow pulse is what most readily raises the suspicion that this condition may exist. In the milder cases the patients suffer symptoms dependent on the insufficient peripheral circulation, for the total cardiac output is necessarily reduced by excessive slowing of the pulse, with its resultant prolongation of diastole into a stage of diastasis.

Prognosis is not good, even in moderate cases, because, when organic the condition, except in the rare cases of tertiary syphilis, is not removable.

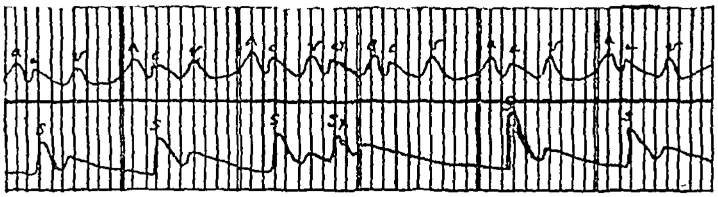

Fig. 5.—Ventricular extrasystole. Note premature systolic wave *Sx*, with reflected *Cx* in venous pulse. Note absence of a premature *a* wave in the venous pulse. Note persistence of sinus rhythm.

Treatment consists in advising the patient to live a life that will require activity only commensurate with a reduced cardiac output. If subject to syncopal attacks, he must be cautioned against being about alone, particularly in places where a sudden attack may leave him dangerously exposed. When syphilis is suspected, of course most vigorous antisyphilitic treatment must be promptly instituted, and here potassium iodid is most important. Digitalis must be carefully avoided. In the average organic case, the constant use of small doses of potassium iodid is indicated. In functional cases, if digitalis is the cause, of course this must be stopped, and atropin in large doses, gr. 1/100 to gr. 1/60 t. i. d. administered.

PULSUS ALTERNANS (DISTURBANCE OF CONTRACTILITY)

The pulse irregularity here to be considered is not an irregularity of rhythm, as the preceding three classes were, but an irregularity of force, with a maintenance, when uncomplicated, of a normal rhythm. It may, however, appear in combination with other irregularities, especially, extrasystole. The characteristics are shown in Figure 7.

It is there seen that the time interval separating all the systoles is the same, but the height of the systolic waves varies, every high wave being followed and preceded by a low one. All the high waves are of about equal height, and all the low waves are also of about equal height. The venous pulse shows no irregularity.

When, for any reason, the reserve stock of the contractile power of the ventricle becomes exhausted, the ventricle contracts in this alternating manner. Thus, during a strong and prolonged systole (high wave) the period of rest is encroached on, the contractile power is not fully restored and the succeeding beat is a feebler one (low wave). This results in a shorter systole, a longer period of rest becomes possible, and the ventricle so far regains its contractile power as again to be capable of producing a strong beat—and so on.

Factors that unduly increase the work of the heart tend to exhaust its contractile power. Thus we find as causes of this disturbance, old cardiac rheumatism with valvular defects, which thus mechanically embarrass its action; especially mitral stenosis, for in this the nutrition of the ventricular muscle also suffers. Cardiosclerosis, arteriosclerosis, sclerosis of the coronary arteries, chronic nephritis, and cardiac overaction (with marked increase of rate), from any cause. Under the last head, cases of paroxysmal tachycardia are especially to be noted.

This condition is found in middle-aged and elderly individuals, and most commonly with high blood-pressures.

The *subjective symptoms,* though dependent on an exhaustion of contractility, appear while the blood-pressure is still high, and usually while the classical signs of cardiac failure, with the exception of dyspnea, are not manifest. Thus, the blood-pressure is high, the pulse rhythm is regular, there is no cyanosis, no dropsy, and no cardiac dilatation (hypertrophy is usually present). The most distressing symptom is a sense of choking or smothering. There may be substernal oppression or even pain, with radiation to the neck and left arm, and marked palpitation. Sometimes all the syndrome of angina pectoris is manifest. There is a desire for absolute rest, for any movement, by increasing the demand on cardiac contractility, aggravates the distress. The distinctive objective sign of the condition is the alternating pulse.

The *prognosis,* while varying with the underlying cause, is always grave, for in most instances the fundamental pathologic change is permanent, and the function disturbed is the most important of the cardiac functions for the maintenance of the circulatory output. In cases of paroxysmal tachycardia, in which the exciting factor of the attacks of tachycardia is often a neurosis which is amenable to sedative treatment directed toward the nervous system (not forgetting psychotherapy), by removing the exciting cause and this stopping the attacks of tachycardia which are exhausting the contractility, the gravity of the prognosis may be modified.

Treatment consists of rest, mental and physical. All sources of worry must be removed, sleep encouraged, even if hypnotic drugs are required; muscular exertion reduced to a minimum; gastro-intestinal tract kept normal, to avoid flatulence and indicanuria. Excessive blood-pressure must be reduced to the point at which the patient feels most comfortable. No arbitrary rule as to how far to reduce blood-pressure can be given. The most satisfactory dilators are the nitrites in the beginning, to be succeeded by chloral hydrate, gr. v. every 4 hours. In mild cases or for prolonged use potassium iodid, gr. x, t. i. d., is useful. Here again, digitalis must be avoided.

ABSOLUTE IRREGULARITY; PULSUS IRREGULARIS PERPETUUS; AURICULAR FIBRILLATION; NODAL RHYTHM (DISTURBANCE OF TONICITY)

While in the irregularities until now considered the normal rhythm is disturbed, there may be some rhythm to the cardiac action, even though an abnormal one. In the type of irregularity now to be considered, all rhythm is lost. The cardiac action is absolutely disorderly, hence the name "absolute irregularity." With this type of irregularity generally goes a loss of tonicity, an [illegible] esulting from it.

The [illegible] irregularity is now recognized to be dependent on auricular fibrillation. When the wall of the auricle becomes so diseased as to cause this chamber to fibrillate (i. e., the individual fibers undergo independent contraction), the conducting system of the heart is bombarded by impulses begging for passage at the rate of 400 to 900 per minute. This system cannot convey the impulses so rapidly, so that most of them are blocked from passage to the ventricle. The impulses that do pass, however, are usually many more than normal, and they are passed through the conducting system at an irregular rate and in uneven degree. As a consequence, the arterial pulse that results is much more rapid than normal, irregular in both rhythm (or rather without rhythm) and force, the strength of a ventricular contraction not being commensurate with the length of the preceding pause. In venous tracings the *a* wave disappears because the auricle does not undergo any systole, and the resulting venous pulse is of the *ventricular* or positive type, or the *m*-shaped wave. In electrocardiograms, the *p* wave, which represents auricular systole, disappears and the curve bears evidence of fine undulations appearing at the rate of 400 to 900 a minute. In cases of mitral stenosis, a previously evident presystolic murmur disappears with the inception of this arrhythmia.

This type of disturbance may be transient and of short duration, as in some cases of paroxysmal tachycardia, but is most commonly found in chronic cases of rheumatic disease of the valves or myocardium, or old cardiosclerosis cases. Having once appeared, even though for a short time, it will usually reappear, and finally remain permanent. Of patients with valvular disease, mitral stenosis cases are the commonest subjects of this arrhythmia. The degree of irregularity and rapidity of the pulse are usually in direct proportion to each other.

The *symptoms* resulting are those of cardiac failure with loss of tonicity, as dyspnea, orthopnea, dropsy, enlarged liver and congested kidneys and lungs, and often hydrothorax. The heart is found dilated, sounds feeble, irregular and rapid.

The *prognosis* is bad, in so far as there is serious underlying disease, which it is not possible to remove, but we have in these cases a sovereign remedy in digitalis. With the proper use of this drug, which includes a good preparation, freshly made from good leaves, and given in sufficiently large doses, it is specific, so far as the decompensation is concerned. Once cardiac failure from auricular fibrillation is diagnosed, no matter what the size of the heart, no matter what valve lesion is present or not present, digitalis is indicated. If the stomach will tolerate a large potion, the best preparation is a freshly made infusion, given in doses of half an ounce to one ounce two or three times daily, and continued until the desired effect is produced, or until nausea and vomiting are caused. Then the dose must be reduced. If the large potions are too much for the stomach, it will often stand better a good fluidextract given in proportional doses (1 dram of the infusion equals 1 minim of the fluidextract). This constitutes a small dose to take, and may even be given in pill form, in which form it is very well tolerated. So far as drugs are concerned, no other need be considered in this condition, except perhaps to mention magnesium sulphate to produce free catharsis when there is dropsy, and sodium chlorid to be omitted or reduced to a minimum.

Of course, when massive doses of digitalis are indicated, rest is urgently indicated, and this includes reduction of the fluid intake to the minimum amount which is compatible with comfort.

In this condition, the benefit which digitalis exercises is chiefly to be attributed to its stimulating effect on the vagus, thus slowing the ventricular contractions by blocking out some of the numerous impulses which the fibrillating auricle is sending down to the conducting system. The ventricle can thus rest, fill better, and contract more vigorously and to more purpose. The direct stimulation of the ventricular muscle, while perhaps not so marked as the vagus stimulation and not so easily demonstrable, nevertheless does obtain. Digitalis has its most remarkable effect in cases in which the pulse is very rapid before it is used.

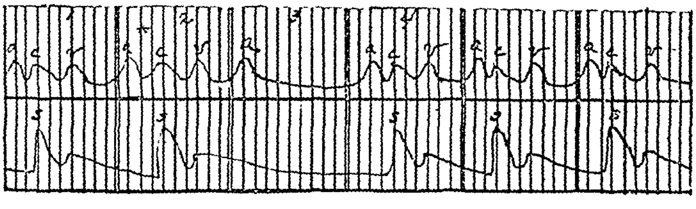

Fig. 6.—Auriculoventricular block. Note absence of response in arterial pulse to auricular contraction, *a* in period 3. Note lengthening of the *a-c* interval, comparing periods 1 and 2, previous to the block, and the shortened *a-c* interval in period 4, which follows the block.

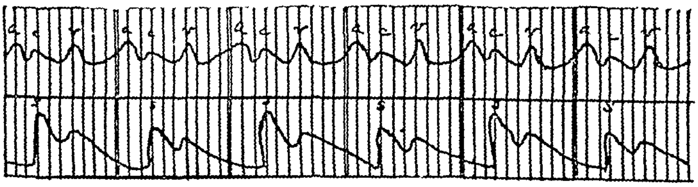

Fig. 7.—Alternating pulse. Note alternate variation in height of systolic waves—*S*, with even time distance between the waves. The venous pulse is normal. *There is here an irregularity of force (contractility) but not of rhythm.*

SUMMARY

To sum up, we must note the following points:

1. A disturbance of cardiac rhythm does not, in itself, indicate a bad prognosis.

2. A disturbance of cardiac rhythm in itself is no indication for the institution of treatment directed to the heart.

3. It is necessary to analyze a cardiac irregularity, so as to determine which of the types mentioned in Table 1 is present, for the prognosis and treatment depend on the type of disturbance. While for purposes of research, close study and further elucidation of the cardiac irregularities, they should be analyzed with the aid of polygraphs and electrocardiograms, it is, nevertheless, in most cases quite possible to determine which type of irregularity we are dealing with by the use of a simple

Jacquet or Dudgeon sphygmograph, instruments that can be conveniently carried in the pocket. Indeed, after a little experience with such an instrument it becomes possible to judge the type of irregularity present by the simple finger palpation of the radial pulse combined with stethoscopic examination of the heart.

4. Do not rush to digitalis as soon as a pulse irregularity is discovered, for in most of the types it is contraindicated.

5. When auricular fibrillation accompanies symptoms of cardiac failure, digitalis is the drug strongly indicated.

6. When, in case of cardiac failure, you are certain that digitalis is required, use it in sufficiently large doses and get a good fresh preparation. The chief reason that the infusion is more often effective than the other preparations is that it is used in larger doses. Thus, few of us prescribe less than half-ounce doses of the infusion, given three times a day, yet few prescribe as high as four minimum doses of the fluidextract three times a day, although it is no more than the equivalent of the half ounce of infusion.

229 West One Hundred and Eleventh Street.

THE INCIDENCE OF SEROFIBRINOUS PLEURISY AND EMPYEMA AS COMPLICATIONS AND SEQUELÆ OF PNEUMONIA, WITH REMARKS ON THEIR MEDICAL TREATMENT *

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AND
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It is admittedly desirable that the guess methods relating to the incidence of both serofibrinous pleurisy and empyema as complications and sequelæ of pneumonia should give way at the earliest possible moment to exact knowledge. It has been the current professional impression that pleurisy is the most common complication of the pneumonic process, but it must be confessed that there is no available statistical evidence to confirm it fully. Again, the precise definition of the term empyema is free from difficulty, it being applicable to a collection of pus in the pleura, however small, while that of serofibrinous pleurisy secondary to pneumonia is distinctly difficult.

In our view, pleurisy in the clinical sense should be regarded as a complication when it co-exists, either as a severe form of the dry plastic variety with marked friction to auscultation or accompanied by sufficient effusion to be demonstrable by means of the physical signs. On the contrary, the slight dry pleurisy which is ordinarily associated with pneumonia is to be looked on as a part of the usual pathologic picture of the disease.

In all cases in which a pleural exudate is obtainable, an etiologic distinction between the recognized varieties is to be based alone on a bacteriologic examination. In the case of empyema, more particularly when it occurs in children, it may happen that the area of lung-consolidation is small, hence effectually cloaked by the secondary empyemic process. Unless a bacteriologic study is made of all pleural exudates, the cases last described would fail to be recognized as being of pneumococcic or secondary origin.

In general, it may be authoritatively stated that serofibrinous pleurisy is of more frequent occurrence than empyema in lobar pneumonia, a dictum strongly supported by the present statistical inquiries, as will be seen hereafter. It has been found that ante-mortem observations show a smaller percentage of complicating fibrinous and serofibrinous pleurisies relatively than post-mortem figures, for the apparent reason that the lighter graded of these varieties escape observation during the life of the patient. In the case of empyema, however, this discrepancy would appear to be less marked.

A post-mortem examination has frequently revealed an associated pleuritis entirely unsuspected, since this complication often has an insidious onset without either the usual "stitch-like" pain in the involved side or showing any effect on other phenomena belonging to the primary disease. The physical signs, although well-known, merit extended and careful investigation and, should doubt remain as to the diagnosis of complicating pleurisy, an exploratory puncture should be undertaken without delay. It is particularly true of the pleuritis which is secondary to pneumonia in children that while the withdrawn fluid may be serous at first, it soon becomes purulent. The transition, however, is not to be ascribed to a secondary invader but to the action of the pneumococcus.

The statistical observations which form the basis of the present paper embraced an examination of 68,982 clinical and post-mortem records, from which we culled 2,512 cases of pneumonia and found that of these, 1,335 presented complications. In the 2,512 cases of pneumonia, serofibrinous pleurisy occurred in 198 and empyema in 68.

A total of 68,520 clinical case reports, exclusive of 462 post-mortem records, for which no clinical notes could be found, were carefully scrutinized with the following result: Total number of cases of pneumonia, 2,050, in which 890 presented complications and of which 128 were instances of serofibrinous pleurisy and 41 of empyema.

The large number of cases of pleural effusion associated with pneumonia, or 169, in which the date of onset could be determined, promised us the opportunity we desired to determine the relative frequency of the different forms of pleurisy, both during the course of pneumonia and as sequelæ. It was necessary to discard a small proportion in which the notes, especially with relation to time of occurrence of the crisis, were imperfect or failed to show the day of onset of the pleuritis. It is not claiming too much to state that it was necessary to lavish extreme care and patience on the work of scrutinizing the histories in order to determine the date on which the pleurisy or empyema in question in each individual case commenced.

We found that of the 128 cases of serofibrinous pleurisy, 106 occurred as complications and twenty-two as sequelæ, while of the forty-one cases of empyema, twenty-four were classed as complications and seventeen as sequelæ. These figures indicate that serofibrinous pleurisy occurs in 5.12 per cent. as a complication and 1.07 per cent. as a sequel of pneumonia. Serofibrinous pleurisy as indicated by these collective investigations is of much more frequent occurrence secondary to lobar pneumonia than empyema, the ratio being 3 to 1 in favor of the former condition. Empyema occurred in forty-one out of 2,050 cases, or 2 per cent., and it will be observed somewhat more frequently as a complication than as a sequel.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

Considering a total of 462 cases of pneumonia occurring at the Philadelphia Hospital, in which the autopsy records alone were consulted, we found that complications were mentioned in 445 instances, of which eighty-eight or 19 per cent., were pleurisy with effusion, e. g., seventy cases of serofibrinous character and eighteen of purulent character.

An analysis of 858 cases from the same institution, in which the clinical records were also scrutinized, showed complications in 404 cases, of which only thirty-nine were instances of pleural effusion. Of the latter, in thirty-four the exudate was serofibrinous, and in five, purulent. Among the thirty-four cases of serofibrinous pleurisy, twenty-five were classed as complications and nine as sequelæ, while all of the empyemas were complications, i. e., occurring before the crisis.

The total number of records examined at the Protestant Episcopal Hospital (see table) were 1,085. Of these, 464 showed complications, of which 124 were pleurisies, ninety-one serofibrinous and thirty-three purulent. Of the serofibrinous form, seventy-eight were complications and thirteen sequelæ, while of the thirty-three purulent, eighteen were complications and fifteen sequelæ.

The accompanying table will enable the reader to make a ready comparison between the figures obtained from the different institutions, which are there represented; and it also reveals at a glance the total number of records consulted, the number of cases of pneumonia from all sources, the number of instances in which complications were mentioned and the relative number of cases in which serofibrinous and purulent pleurisy, both as complications and sequelæ, occurred.

				Serofibrinous		Purulent	
Name of Hospital	Records Consulted	Total number of pneumonias	Complications mentioned	Complications	Sequelæ	Complications	Sequelæ
Philadelphia General	41,377	858	404	25 (2.9%)	9 (1.05%)	5 (0.58%)	0 .....
Protestant Episcopal	24,795	1,085	464	78 (7.19%)	13 (1.2%)	18 (1.66%)	15 (1.38%)
Medico-Chirurgical ...... (Recent records)	2,348	107	22	3 (0.28%)	0	1 (0.093%)	2 (0.196%)
Total	68,520	2,050	890	106 (5.12%)	22 (1.07%)	24 (1.17%)	17 (0.83%)

The figures of Musser and Norris[1] showing the results of their collective investigations, based on clinical observations, are quite in harmony with those given above. Thus, out of a total of 24,511 cases, studied by them, pleural effusion occurred in 1,535, or 6.26 per cent. On the other hand, the collected cases from autopsy records by these observers are at variance with our own results. For example, they found pleural effusion in 405 out of 974 necropsy records, or 41.58 per cent., while we found in 462 autopsy reports of pneumonia occurring at the Philadelphia Hospital (see above) only eighty-eight instances of pleural effusion, or 19 per cent.

Thomas McCrae stated in a personal communication that out of twenty-nine cases of empyema secondary to lobar pneumonia, twenty-five were classed as complications and only four as sequelæ. These figures indicate a much larger preponderance of empyemata occurring as complications in pneumonia than as sequelæ, thus differing from the results of our collective investigations, e. g., in a total of forty-one cases, twenty-four developed prior to the occurrence of the crisis and seventeen were distinctly postcritical.

TREATMENT

In non-pneumococcic pleurisy of the serofibrinous variety, it is the custom of many clinicians to aspirate early, and we believe that the disease has in the past been too conservatively treated. When we are dealing with either serofibrinous pleuritis or empyema occurring secondary to pneumonia, however, an expectant method, unless thoracentesis be urgently needed, is to be adopted until the crisis has been passed, but if the latter fail to appear at the proper time, then the exudate should be promptly withdrawn. On the other hand, if a critical decline of temperature takes place in due season, a serofibrinous effusion is quickly absorbed in some cases at least, but if not, then recovery must be enhanced by puncture followed by aspiration.

If a massive effusion develop during the fastigium of pneumonia, displacing the heart and other adjacent organs, or if under these circumstances signs of involvement of the non-affected side, such as moist râles, broncho-vesicular breathing and impaired resonance arise, and finally, serious symptoms such as urgent dyspnea or syncopal attacks with cyanosis manifest themselves, the withdrawal of the exudate is to be advised. Such cases, however, may demand more radical operative measures for their cure after the usual crisis, and these should not be too long withheld. Aspiration during the fastigium is a procedure calculated to do harm on account of the slight shock induced by it, hence it should be undertaken only in cases presenting large pleural collections which give rise to the untoward effects already stated.

We desire to state with emphasis that our results from aspiration for pleural effusion in pneumonia prior to the crisis, in patients that have been desperately ill, have been decidedly discouraging.

The aim in the treatment of individual cases of pneumonia in which pleurisy in one of its different forms is associated, is to secure the largest possible degree of comfort to the patient and the withdrawal of the exudate, if it should occur, at the earliest moment compatible with safety to life.

The indications for the use of medicinal substances in complicating pleurisy are few, and nothing in the nature of a depressant, especially such as the coal tar products, is permissible since pneumonia, the primary disease, debilitates every organ of the body, notably the heart. To be avoided also, therefore, are the salicylates, although these as well as quinin and opium exercise a more or less favorable effect in serous pleuritis in general. Opium is also open to objection in the more advanced stages of pneumonia, especially should the bronchi contain secretory products, since the drug exerts a drying effect, thus hindering their dislodgment. A pneumococcus pleuritis may develop and accompany the pneumonic process from the beginning in which case opium may have great usefulness as a therapeutic agent in the earlier stages, relieving the pain and inducing repose.

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[1] Osler: Modern Medicine, ii, 597.

Experience dictates that quinin has a beneficial influence on inflamed serous membranes, and it possesses a limited value at least, in the pleuritis of pneumonia, both as a supportive agent and in mitigating the intensity of the inflammatory process. It may be administered in 4 gr. doses in capsule, followed immediately by a few drops of dilute hydrochloric acid to insure its prompt solution, four times daily.

LOCAL MEASURES

In cases of pneumonia in which severe pains due to associated pleuritis develop early, fixation of the affected area by means of strips of adhesive plaster is an effective and feasible measure. These should be, however, removed in the event of the occurrence of effusion. The use of morphin in small doses, administered hypodermically, is not objectionable during the earlier stages of pneumonia, if demanded for the relief of intense pains that remain unrelieved by immobilization of the side involved. On the other hand, in light grades of associated pleurisy, counter-irritation by means of sinapisms is to be advised. In the adult, if the patient's nervous system be not too sensitively organized, cold applied in the form of an ice-bag or ice-water bag, or better still cold compresses reapplied at least every hour, as suggested by Baruch, with the least possible disturbance to the patient, is a remedy of choice.

We are quite convinced of the extreme importance of affording prompt relief of the pain, so as to enable the function of respiration to be carried on the more actively, and thus also to preserve the nervous tone and equilibrium of the patient.

In concluding, our best thanks are due to Drs. H. Leon Jameson, Harry W. Bauer and Ernest E. Laubaugh, for material assistance in collecting the statistical data presented above.

1605 Walnut Street.

ABSTRACT OF DISCUSSION

Dr. J. N. Hall, Denver: I wish to comment on a series of sixty-two cases of empyema seen in my private and consultation practice in the past nine years, with a view of urging the necessity of earlier diagnosis. I have to thank my assistant, Dr. T. R. Love, for compiling this brief record. Many of these cases were seen weeks or months after the beginning of the disease, and no less than thirteen of them ruptured through the lung. That is, of course, explained by the fact that in the simple and easily recognized cases operations were done at home, while in many of the obscure the patients came far, often from other states, for investigation. Twenty-two of the sixty-two patients died—a frightful mortality, and far higher than the average, because of the character of the material. Thirty-four of these cases followed an acute pneumonia; eight were found to be tuberculous patients, often originating, doubtless, in pneumothorax; five were associated with bronchopneumonia; three succeeded a simple pleural effusion; three followed an ascending infection from appendicitis; two occurred in cases of measles; two after injury to the chest; while one case was found in association with each of the following conditions: General sepsis; perforation of an infected gallbladder in typhoid fever; gangrene of the lung; sarcoma of the pleura; lipoma of the pleura (no exact cause was determined in the latter two cases). Twenty-nine of the cases were right-sided, thirty were left-sided, while three were not noted. There were forty-four males and but eighteen females.

The earlier and freer use of the exploring needle should prevent such humiliation as we must all feel over such a mortality rate as that quoted, and over such a number of perforations through the bronchi. No case should be allowed to drift with fever and obscure chest symptoms without well-considered and applied exploration. I have finally found pus at the thirteenth puncture under anesthesia in a case in which previous less persistent investigation had failed to reveal it, and the man is well to-day. Yet certain cases of empyema deep in the chest, either between the lobes or on the diaphragm, may go on to rupture or death without such external signs as to lead to their detention even by fairly expert clinicians. Such instances should, however, be rare. I wish to reiterate the importance of more persistent attempts to find the pus in cases of obscure chest disease, with fever and leukocytosis, and to urge the danger underlying the diagnosis of "unresolved pneumonia," "thickened pleura," etc. If not cleared up by one or two punctures, it is better, if we can be reasonably certain that pus is present somewhere in the chest, to give an anesthetic with everything prepared for operation and systematically explore the chest until pus is found. The drainage by the surgeon is often a far less formidable procedure than the finding of the purulent focus. We have from 15 to 20 per cent. of the total population of Denver who have come to us because of some form of disease; many of them have some changes in the chest such as an empyema, or the results of perforation, or lung abscess. I have seen a general streptococci infection resulting from the injection of some sort of a vaccine. It was afterwards learned that the needle was stuck into the lung; as a result an empyema developed and the patient died. As to any damage to the lung itself by exploration, I have never seen serious trouble.

Dr. Everitt J. Brown, Decatur, Ill.: I think there is one crime which we can frequently hold against the general practitioner and that is the failure to recognize fluid in the chest. In consultation work in a country district I find many cases of empyema and other pleuritic exudates unrecognized. I recently saw a case of empyema in a young man, age 16 years, in which the amount of pus was so enormous as to cause actual deformity from the bulging of that side of the chest. I removed 7 pints by aspiration on one day and three days later 8 pints more were removed by drainage. The patient made a good recovery. I recently had two cases of empyema occur simultaneously in the same family; both were young men. The first case followed pneumonia, and the second boy became infected from the first case by blowing through the tubes attached to a James bottle which the first patient was using to expand the lung; pneumonia with empyema which required drainage occurred. Both patients recovered.

Dr. C. F. Hoover, Cleveland: A very good practice in examining patients with suspected disease of the pleuræ is to auscultate with the unaided ear. If this practice is adhered to it will be found that every accumulation of fluid in the pleural cavity causes an elevation of pitch of the murmur of inspiration and expiration. The sound may be faint or at times inaudible on account of thickening of the pleuræ, but when the respiratory sounds are audible they are heightened in pitch by the presence of fluid whether it is pus, blood or serum.

Dr. A. C. Morgan, Philadelphia: The discussion, it seems to me, has resolved itself into a study of the physical signs. It has, however, been immensely profitable. In the paper presented there were without any doubt many sins of omission as well as of commission; these may occur in attempts at making a diagnosis of a pleuritic exudate, no matter of what type, and may occur through carelessness or through ignorance, or through an improper interpretation of what is found in the physical examination of the chest. In teaching physical signs in the chest to students I have found that it is very hard to get them to study those that are normal; but they are always very eager to study the signs that are abnormal. Place a student to examine a normal chest and he soon assumes an air of satiety; he turns from it and it is very hard to keep his attention. But when given a chest to examine that is abnormal he is delighted and listens to what can be heard, although he is not fitted to interpret properly what he finds. I think, too, that general practitioners have this same fault; they will not study the normal conditions found in the chest; they do not maintain in their minds what is real and what is abnormal. The best way, I believe, to teach what is abnormal is first to insist on the students being taught what is the normal. They should be made to learn what is the normal; they should be made to become familiar with the normal conditions. If you can satisfy yourself that you know what is normal, then when you strike something that is abnormal, your interest will be aroused, and you will proceed to study the case along definite and concrete lines. I wish to make a plea that we get back of this and learn first the normal; then when we find something that is not normal we shall be in a better position to study our cases intelligently.

EOSINOPHIL CELLS AND POLLEN IN VERNAL CATARRH

BROWN PUSEY, M.D.
CHICAGO

In April, 1911,[1] I reported the finding of eosinophil polymorphonuclear leukocytes in smears taken from a series of cases of vernal catarrh, confirming Herbert's discovery. Interested in this finding and knowing the many points of similarity between vernal catarrh and the conjunctivitis of hay-fever, I have been led to the examination of smears taken from a series of cases of the latter disease.

In smears taken from the conjunctivæ of a series of cases of hay-fever, I have found eosinophil polymorphonuclear leukocytes in great abundance; indeed the cellular content of a smear from the one disease is the same as that from the other.

This observation shows another, and possibly a very important, similarity between the two diseases. We know that the conjunctivitis of hay-fever is due to pollen. From my observation of eosinophil cells in the conjunctival secretion of hay-fever, we know that pollen may cause an inflammation of the conjunctiva with secretion containing an abundance of eosinophil cells. This fact becomes of increased interest when it is realized that eosinophil cells are a negligible factor, as was shown in my previous work, in smears from all ordinary forms of conjunctivitis.

It is in the field of etiology of vernal catarrh (an unknown field) that the finding of these cells in hay-fever is of interest. I venture to think that the presence of eosinophil cells in the conjunctivitis of hay-fever and in vernal catarrh, and their absence in ordinary forms of conjunctivitis, point strongly to a similar etiologic factor—pollens.

7 West Madison Street.

Screw-Worms in the Ear.—Dr. W. S. Lorimer, Handley, Tex., writes: "A few days ago I was called to see a female child, 4 months old, who had been peevish and fretful for two days previous. She was well nourished, apparently healthy, being breast-fed and having healthful and sanitary surroundings. The history was negative, except for irritability and fretfulness for two days. There had been no previous illness. On examination, a small, white, moving object was seen in right ear, which proved later to be a screw-worm. Chloroform was applied to the ear, and, on irrigating with boric acid solution, three screw-worms came out. The child recovered and is well and healthy. I cannot imagine how this condition can occur in children in such sanitary surroundings."

AN ARTHROPLASTIC OPERATION FOR HAMMER-TOE

B. J. O'NEILL, M.D.
SAN DIEGO, CAL.

The following case is reported both on account of the good result secured and because, so far as is known to me, it is the first attempt to adapt Murphy's arthroplastic operation to hammer-toe.

History.—The patient, a woman of 22, came to me in January, 1911, with a hammer-toe, which had been present since childhood and which caused her great pain on walking.

Examination.—The third toe of the left foot was a typical and very marked hammer-toe, with a tender callus on the top of the first and on the bottom of the second joint, the adjoining toes almost touching in front of the vertical second phalanx and above the terminal phalanx, and an almost complete ankylosis of the first phalangeal joint. A general examination was negative.

Treatment.—I advised amputation, which was refused. As the patient insisted on trying some conservative operation, it occurred to me that the operation I had seen Dr. J. B. Murphy do on an ankylosed knee-joint might be repeated on a small scale here.

Operation.—Accordingly, under general anesthesia, I made a longitudinal incision about an inch long on the dorsal surface of the toe, its middle over the prominence of the joint, freed the bone from the soft parts, and removed the distal end of the first and the proximal end of the second phalanx for a distance of about one-fourth inch each. I then dissected loose a thin layer of the subcutaneous tissues at the outer side, cut it loose at its distal end so as to make a flap with the pedicle at the proximal end, passed this across between the two bones and sutured it by one stitch each to the inner side, below and above. I then closed the skin wound with a subcuticular silkworm gut and fastened foot and toe by adhesive strips to a specially prepared splint in such a way as to hold the toe perfectly straight.

Result.—Immediately after the operation, the joint was flail-like and the soft parts loose and baggy, but they gradually contracted down and backward, making the toe slightly shorter than its fellows and but little above the normal size. It remained tender for some time but this soon passed over and the healing was complete in about three weeks. I had feared recurrence on account of the pinching in of the toes on either side but the slight shortening of the toe seems to have prevented this. At the present time, six months after the operation, the toe is only slightly thickened at this joint, straighter than any other toe on the foot, and gives the patient no pain or discomfort whatever. There seems to be a new joint developed at the point, as there is fully as much mobility, both active and passive, as in the other toes.

Sefton Block.

Therapeutics

PRESCRIPTION WRITING

(Continued from page 1135)

CHAPTER II.—OFFICIAL PREPARATIONS

The principal preparations of the United States Pharmacopeia may be classified as follows:

1. Solids mostly for internal use:
    - A. Extracts (extracta).
    - B. Pills (pilulæ).
    - C. Powders (pulveres).

2. Liquids mostly for internal use:
    - A. Waters (aquæ).
    - B. Elixirs (elixira).
    - C. Emulsions (emulsa).
    - D. Fluidextracts (fluidextracta).
    - E. Infusions (infusa).

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[1] Pusey, Brown: Vernal Conjunctivitis and Eosinophil Cells, THE JOURNAL A. M. A., April 1, 1911, p. 952.

F. Liquors (liquores).
G. Mixtures (misturæ).
H. Spirits (spiritus).
I. Syrups (syrupi).
J. Tinctures (tincturæ).

3. Semisolids for external use:
A. Cerates (cerata).
B. Ointments (unguenta).

4. Liquids for external use:
A. Liniments (linimenta).
B. Some waters (aquæ).
C. Some liquors (liquores).
D. Some tinctures (tincturæ).

1. Solids Mostly for Internal Use

A. *Extracts* are concentrated preparations of a drug, and are mostly moist and sticky. A few extracts are dry. They should be prescribed in pill or capsule.

The most important are:

Extractum belladonnæ foliorum	Dose. 0.01 gm. or gr. 1/6
Extractum digitalis	Dose. 0.01 gm. or gr. 1/6
Extractum ergotæ	Dose. 0.25 gm. or gr. iv
Extractum nucis vomicæ	Dose, 0.01 gm. or gr. 1/6
Extractum physostigmatis	Dose, 0.01 gm. or gr. 1/6
Extractum rhamni purshianæ	Dose. 0.25 gm. or gr. iv
Extractum opii	Dose. 0.03 gm. or gr. 1/2

B. Official *pills* are ready-made preparations, and consequently it should be remembered that they may have deteriorated or become more or less insoluble. Still some of the laxative pills, especially, are of value.

The following is a ready reference to the ingredients of the most used pills:

Blaud's pills (pilulæ ferri carbonatis) contain 0.065 gm. (1 gr.) of iron.

Pills of aloes (pilulæ aloes) contain 0.13 gm. (2 gr.) of aloes.

Pills of aloes and iron (pilulæ aloes et ferri) contain 0.065 gm. (1 gr.) each of aloes and iron.

Compound cathartic pills (pilulæ catharticæ compositæ) contain extract of colocynth comp. 0.08 gm. (1¼ gr.); calomel 0.06 gm. (1 gr.); resin of jalap 0.02 gm. (⅓ gr.); gamboge 0.015 gm. (¼ gr.).

Vegetable cathartic pills (pilulæ catharticæ vegetabiles) contain extract of colocynth comp. 0.06 gm. (1 gr.); extract of hyoscyamus 0.03 gm. (½ gr.); resin of jalap 0.02 gm. (⅓ gr.); extract of leptandra 0.015 gm. (¼ gr.); resin of podophyllum 0.015 gm. (¼ gr.).

Compound laxative pills (pilulæ laxativæ compositæ) contain aloin 0.013 gm. (1/5 gr.); strychnin 0.0005 gm. (1/120 gr.); extract of belladonna leaves 0.008 gm. (⅛ gr.); ipecac 0.004 gm. 1/15 gr..

Compound podophyllum pills (pilulæ podophylli, belladonnæ et capsici) contain resin of podophyllum 0.016 gm. (¼ gr.); extract of belladonna leaves 0.008 gm. (⅛ gr.); capsicum 0.032 gm. (½ gr.).

Compound rhubarb pills (pilulæ rhei compositæ) contain rhubarb 0.13 gm. (2 gr.); aloes 0.10 gm. (1½ gr.); myrrh 0.06 gm. (1 gr.).

C. Official *powders* are dry preparations of two or more drugs. It is better to order a powder by its official title, but below are the common names and the ingredients of the most used of these preparations:

Dover's powder (pulvis ipecacuanhæ et opii) contains 10 per cent. each of ipecac and opium.

Tully's powder (pulvis morphinæ compositus) contains 1.5 per cent. of morphin and 32 per cent. of camphor.

Compound aromatic powder (pulvis aromaticus) is a mixture of aromatics.

Compound jalap powder (pulvis jalapæ compositus) contains 35 per cent. of jalap and 65 per cent. of potassium bitartrate.

Compound licorice powder (pulvis glycyrrhizæ compositus) contains 18 per cent. of senna; 23 per cent. of glycyrrhiza; 8 per cent. of sulphur.

Gregory's powder, compound rhubarb powder (pulvis rhei compositus) contains 25 per cent. of rhubarb; 65 per cent. of magnesium oxid; 10 per cent. of ginger.

Seidlitz powder (pulvis effervescens compositus) consists of two powders; one of Rochelle salt and bicarbonate of soda in blue paper, and the other of tartaric acid in white paper.

2. Liquids Mostly for Internal Use

A. *Waters* are solutions of *volatile* substances in *water;* mostly *weak* preparations. (Exception, ammonia waters.)

H. *Spirits* are solutions of *volatile* substances in *alcohol;* mostly *strong* preparations. (Exception, sweet spirits of niter.)

F. *Liquors* are solutions of *non-volatile* substances in *water;* mostly *weak* preparations. (Exceptions, the arsenic solutions and those for external use.)

J. *Tinctures* are solutions of *non-volatile* substances in *alcohol;* mostly *strong* preparations. (Exceptions are the aromatic and stomachic [bitter] drug tinctures.)

H. Some of the common names of spirits are:

Whisky (spiritus frumenti).
Brandy (spiritus vini gallici).
Sweet spirits of niter (spiritus ætheris nitrosi).

F. Some of the common names of liquors are:

Fowler's solution (liquor potassii arsenitis).
Spirit of Mindererus (liquor ammonii acetatis).
Lugol's solution (liquor iodi compositus).
Goulard's solution (liquor plumbi subacetatis).
Labarraque's solution (liquor sodæ chlorinatæ).

B. *Elixirs* are sweetened liquid preparations containing alcohol. They are weak preparations, and the National Formulary contains a large number.

C. *Emulsions* are liquid preparations containing a suspended oil.

D. *Fluidextracts* are liquids representing exact strengths of the drugs, i. e., 1 cubic centimeter (15 minims) contains the medicinal properties of 1 gram (15 grains) of the drug.

E. *Infusions* are weak watery preparations. One only is of value, viz., infusum digitalis.

G. *Mixtures* are liquids containing more than one drug, often an insoluble one. The most used are:

Brown mixture (mistura glycyrrhizæ compositus).
Chalk mixture (mistura cretæ).

The National Formulary contains a long list of mixtures.

I. *Syrups* are very sweet watery solutions of one or more drugs. These weak preparations are prescribed too frequently, as they readily cause disturbance of the stomach, and do not often modify a bad-tasting drug, but may even protract the taste. Sweet cough syrups are an abomination.

3. Semisolids for External Use

A. and B. The principal difference between *cerates* and *ointments* is their melting-points. The ointments contain more lard or petroleum fat and less wax than the cerates, hence they have a lower melting point than the latter. Cerates do not melt when applied to the skin.

4. Liquids for External Use

Some *waters,* some *liquors,* some *tinctures* and the *liniments,* as the name implies, are used externally only. Most of the liniments are stimulating to the skin, but two being sedative, viz., the belladonna liniment and the carron oil (linimentum calcis).

(To be continued).

New and Nonofficial Remedies

The following additional articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association. Their acceptance has been based largely on evidence supplied by the manufacturer or his agent and in part on investigation made by or under the direction of the Council. Criticisms and corrections are asked for to aid in the revision of the matter before publication in the book "New and Nonofficial Remedies."

The Council desires physicians to understand that the acceptance of an article does not necessarily mean a recommendation, but that, so far as known, it complies with the rules adopted by the Council.

W. A. Puckner, Secretary.

PEROXIDES OF METALS

Metallic peroxides are compounds in which the hydrogen of hydrogen peroxide has been replaced by metals, and which are readily decomposed with liberation of hydrogen peroxide, or of oxygen in an active state. The peroxides of several metals have been suggested as substitutes for the hydrogen peroxide solution, official as aqua hydrogenii dioxidi.

The commercial products are usually mixtures containing but a limited amount of real peroxide; for example, commercial "magnesium peroxide" contains but about 15 per cent. of magnesium peroxide while commercial "sodium peroxide" contains about 75 per cent. of sodium peroxide.

The different peroxides vary considerably in their stability, their solubility and in their ease of decomposition in solution. In solutions of acids the peroxides are decomposed, forming hydrogen peroxide and the salt of the metallic radicle of the peroxide. In this way the entire active oxygen-content of the peroxide is quickly made available in the form of hydrogen peroxide in solution. Water dissolves only minute quantities of these peroxides, but it decomposes them with varying degrees of readiness. Thus zinc peroxide, although very insoluble, is decomposed by water into zinc hydroxide and hydrogen peroxide as follows:

$$ZnO_2+2H_2O \rightarrow Zn(OH)_2+H_2O_2$$

The energy of the oxidizing powers of different peroxides varies in direct ratio to the alkalinity of the solution produced in their decomposition. The variation in the alkalinity of the solutions formed affects the therapeutic uses of the peroxide. Sodium peroxide is not desirable for therapeutic use because of the formation of the strongly alkaline solution of sodium hydroxide (caustic soda). Magnesium and zinc peroxide, on the other hand, yield weakly alkaline solutions and are for that reason more desirable.

Actions and Uses.—Like hydrogen peroxide, the metallic peroxides depend for their value on the readiness with which a part of their oxygen becomes active. They are claimed to possess advantages over solution of hydrogen peroxide, because the oxygen is set free more gradually. Among themselves the metallic peroxides differ in their action in accordance with their solubility and the alkalinity produced by interaction of the peroxid with water. The action of peroxides is also affected by the nature of the metal which goes into solution when the peroxid is decomposed. Thus the use of sodium peroxide is limited by the strong base formed when it dissolves in water and that of zinc peroxide by the poisonous action of zinc solutions.

Because of the strong oxidizing effects on the lower organisms, the peroxides have been recommended as a convenient means of sterilizing water, thus a mixture has been used containing magnesium peroxide 0.2 Gm. and tartaric acid 0.5 Gm., the latter favoring the decomposition of the peroxide. It has been proposed to employ the oxidizing effect of peroxides in the treatment of skin diseases, by using a mixture of zinc peroxide, 10 parts; potassium iodide, 5 parts, and tartaric acid, 1 part from which on contact with moisture iodine is gradually liberated. As an ingredient of dentifrices magnesium and strontium peroxide have been used.

Internally the peroxides have been claimed to be of value as gastric and intestinal antiseptics and to be of use in the treatment of acid dyspepsia, abnormal fermentation and summer diarrhea of infants.

CALCIUM PEROXIDE—Calcii Peroxidatum.—Calcium peroxide is a mixture consisting essentially of calcium peroxide, the calcium salt CaO_2, of hydrogen peroxide and calcium hydroxide and carbonate, containing not less than 60 per cent. calcium peroxide, equivalent to 13.4 per cent. available oxygen.

Calcium peroxide is a light, cream-colored, odorless and tasteless powder. It is practically insoluble in water, but by such contact it is gradually decomposed into hydrogen peroxide and calcium hydroxide, the hydrogen peroxide being further decomposed by the alkaline calcium hydroxide with liberation of oxygen. It is decomposed by dilute acids with formation of a solution containing hydrogen peroxide.

If a few milligrams of calcium peroxide be shaken with 10 Cc. water and 1 drop diluted sulphuric acid, and a few Cc. ether added, the subsequent addition of a drop of potassium dichromate solution will produce a blue color in the aqueous layer. On shaking, the blue color will pass into the ethereal layer.

If 1 Gm. calcium peroxide be dissolved in 25 Cc. dilute nitric acid and 2 Cc. tenth-normal silver nitrate added to the solution and the resulting precipitate filtered off, the further addition of a few drops of silver nitrate solution to the filtrate should produce not more than a turbidity.

If 1 Gm. calcium peroxide be exposed to the full heat of a Bunsen flame for five minutes, then dissolved in 25 Cc dilute hydrochloric acid and the solution made up to 100 Cc., a solution will result which will conform to the following tests:

Ten Cc. of the solution, to which ammonium hydroxide in excess has been added, should yield a white precipitate on the addition of ammonium oxalate solution.

Ten Cc of the solution saturated with hydrogen sulphide should yield no precipitate, nor become colored.

Ten Cc. of the solution should yield not more than a turbidity on the addition of barium chloride solution.

Ten Cc. of the solution, after addition of a slight excess of ammonium hydroxide and acidification with acetic acid, should yield no turbidity on the addition of potassium dichromate solution.

If 0.2-0.3 Gm. calcium peroxide, weighed into a flask, be shaken with 25 Cc. water, then 25 Cc. dilute hydrochloric acid added, the titration of this solution with tenth-normal potassium permanganate should indicate the presence of not less than 60 per cent. calcium peroxide. (One Cc. tenth-normal potassium permanganate is equivalent to 0.0036 Gm. CaO_2).

Actions and Uses.—See Peroxides.

Dosage.—0.06 to 0.3 gm. (1 to 5 grains) in water or with sodium bicarbonate, two to three times daily.

Calcium Peroxide, R. & H.—Manufactured by the Roessler & Hasslacher Chemical Co., New York. Not patented or trademarked.

MAGNESIUM PEROXIDE.—For properties, actions, uses and dosage see New and Nonofficial Remedies; also The Journal A. M. A., Feb. 25, 1911, p. 591.

Magnesium Peroxide, R. & H.—Manufactured by Roessler & Hasslacher Chemical Co., New York. Not patented or trademarked.

SODIUM PEROXIDE.—For properties, actions, uses and dosage see New and Nonofficial Remedies, 1911, p. 209.

STRONTIUM PEROXIDE—Strontium Peroxidatum.—Strontium peroxide is a mixture consisting essentially of strontium peroxide, the strontium salt, SrO_2, of hydrogen peroxide and strontium hydroxide containing at least 84.5 per cent. strontium peroxide, equivalent to 11.3 per cent. available oxygen.

Strontium peroxide is a fine, white, odorless and tasteless powder. It is practically insoluble in water, but by such contact is gradually decomposed into hydrogen peroxide and strontium hydroxide, the hydrogen peroxide being further decomposed by the alkaline strontium hydroxide with liberation of oxygen. It is decomposed by dilute acids with formation of a solution containing hydrogen peroxide.

If a few milligrams of strontium peroxide be shaken with 10 Cc. water and 1 drop dilute sulphuric acid, and a few Cc. of ether added, the subsequent addition of a drop of potassium dichromate will produce a blue color in the aqueous layer. On shaking, the blue color will pass into the ethereal layer.

If 1 Gm. strontium peroxide be dissolved in 25 Cc. dilute nitric acid and 2 Cc. tenth-normal silver nitrate added to the solution and the resulting precipitate filtered off, the further addition of a few drops of silver nitrate solution to the filtrate should not produce more than a turbidity.

If 1 Gm. strontium peroxide be exposed to the full heat of a Bunsen flame for five minutes, then dissolved in 25 Cc. dilute hydrochloric acid and the solution made up to 100 Cc., a solution will result which will conform to the following tests:

Ten Cc. of the solution made alkaline by the addition of ammonium hydroxide and then slightly acid with acetic acid should yield a white precipitate on the addition of ammonium sulphate solution.

Ten Cc. of the solution saturated with hydrogen sulphide should yield no precipitate nor become colored.

Ten Cc of the solution should yield not more than a turbidity on the addition of barium chloride solution.

Ten Cc. of the solution which has been made alkaline with ammonium hydroxide and then acidified with acetic acid should yield no turbidity on the addition of potassium dichromate solution.

If 0.2-0.3 Gm. strontium peroxide, weighed into a flask, be treated with 50 Cc. water and dissolved by addition of 20 Cc. dilute sulphuric acid, the titration of this solution with tenth-normal potassium permanganate should indicate the presence of not less than 84.5 per cent. strontium peroxide. (1 Cc. tenth-normal potassium permanganate is equivalent to 0.0061 Gm. SrO_2).

Actions and Uses.—See Peroxides.

Dosage.—It is used in the form of ointments and as a dusting powder.

Strontium Peroxide, R. & H.—Manufactured by the Roessler & Hasslacher Chemical Co., New York. Not patented or trademarked.

ZINC PEROXIDE.—For properties, actions, uses and dosage, see New and Nonofficial Remedies, 1911, p. 234.

Zinc Peroxide, R. & H.—Manufactured by the Roessler & Hasslacher Chemical Co., New York. Not patented or trademarked.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

535 DEARBORN AVENUE . . . CHICAGO, ILL.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

[*For other information see second page following reading matter*]

SATURDAY, OCTOBER 7, 1911

THE PROGRESS OF CHEMOTHERAPY

In an address before the society of microbiology in Dresden[1] last May, Ehrlich drew back the curtain and gave several glimpses of the seething activity with which the new field of chemotherapy is being cultivated at the laboratories in Frankfort. Only one who is familiar with the difficulties and obstacles to be overcome at both the chemical and experimental ends of this work, can fully appreciate the enormous energy and tireless industry to which the abundant results that pour out from the Ehrlich institutions testify.

Evidently the immunity or resistance which parasites acquire to both chemical parasiticides and immune serums has occupied much of the attention of the investigators. Biologists will find much to interest them in the demonstration that once a strain of parasites has acquired such immunity, the descendants of this strain will continue to exhibit the acquired characteristic for an indefinite number of generations, through years at least. Physicians will see in this fact a justification of the fear, which was aroused early in the study of chemotherapy, that in time we may become the prey of parasites which are immune to every known sort of parasiticidal agent. Happily, Ehrlich has discovered that this danger is not imminent, and perhaps our fears are entirely groundless; the escape lies through another observation of profound biologic interest, which may be described as follows: As long as a strain of a parasite immune to a given poison is perpetuated by direct passage from animal to animal, the reproduction is asexual, and the protoplasm is directly continued from generation to generation: in this case the immunity persists. But if by passage through a natural intermediate insect host the parasite is reproduced through sexual conjugation, the new generations are devoid of the acquired specific immunity to the parasiticidal drug. Therefore, since most of the protozoan diseases, at least, are transmitted through intermediate hosts, it is probable that the danger of perpetuation of drug-immune parasites is not serious.

Parasites become immune to serum antibodies much more quickly than to chemical parasiticides, but the immunity to the chemicals is much more difficult to eliminate by experimental means. According to Ehrlich's views, when a parasite becomes refractory to an immune serum it does so by developing new groups of receptors to take the place of those occupied by the antibodies, these receptors being the same receptors as combine with the food materials, and hence called "nutriceptors." But it is possible for the host to develop new antibodies specific for the newly developed receptors, and this alternate counter-immunization may continue until the parasite has exhausted all possible means for producing the new receptors necessary for maintenance of nutrition, when it will be obliged to die out because the serum of the host contains all the different forms of antibodies necessary to combine all the different receptors of the parasite. Experimental evidence has been obtained on which this conception of the counter-reaction of host and parasite is based, and also it has been found that the number of new recurring strains which most parasites can develop is, fortunately, quite limited. To prevent the development of these immune strains it is desirable to produce a complete sterilization of the host with one dose of the therapeutic agent, if possible, but if a parasiticidal agent kills only a fraction of the parasites it still may happen that the antibodies formed in reaction to the killed organisms will be sufficient to destroy the survivors; on this account it may sometimes happen that a therapeutic injection will give more complete destruction of the parasites when these are present in large numbers than it will at earlier stages of the disease when but few parasites are present.

In syphilis the decreasing number of organisms present as the disease advances may be ascribed to the wiping out by specific antibodies of most of the strains present, leaving a few survivors refractory to all the antibodies developed by the host up to that time. The fresh outbreaks of syphilitic lesions are, on this basis, brought about by new strains of the spirochete which have developed immunity to the existing antibodies, and the subsidence of the lesions depends on the formation of a new set of antibodies to combat the new strain. Hence it comes to pass that during the actual existence of syphilitic infection the individual is not susceptible to a new infection, because of the abundance of antibodies present in his blood to which the new strain of spirochetes is not immune. But when the disease is over and the antibodies have been eliminated, reinfection becomes possible. The recurrence of lesions after salvarsan injections, especially in certain nerves, is ascribed by Ehrlich, not to an injury of the nerve tissue by the drug, but to an actual syphilitic lesion set up by organisms present in the nerves, where they are somewhat protected from the salvarsan, so that after the drug has been sufficiently eliminated they multiply and set up local lesions. The best protection against this form of complication will be early treatment, before such localization has occurred.

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1. Ehrlich: Folia Serologica, 1911, vii, 697.

Certainly this address, as well as the numerous papers that have recently appeared from Ehrlich's workshops, carries the conviction that the progress in chemotherapy is being based on most sound and careful experimental work, and that as yet this work, large as its results already are, is still in the earliest preliminary stages. We have every right to look for more brilliant results in the future. The fear expressed that in diseases with local lesions chemotherapy must be less successful than in such blood infections as trypanosomiasis and similar diseases with which most of the experiments have been conducted, is already discounted by the highly successful results obtained by many in the treatment of frambesia or yaws.

STANDARDIZATION OF ERGOT

Another important contribution[1] to the subject of the physiologic standardization of drugs has been made by the Hygienic Laboratory of the Public Health and Marine-Hospital Service. The authors conclude, both from their own work and from that of others, that the proposed chemical methods of assay throw little light on the therapeutic value of a preparation of ergot. This view seems now to be accepted by most manufacturers. Thus a member of a firm which has been laying much emphasis on the fact that its product was assayed by the cornutin of Keller (which, the firm said, it had found to be a "trustworthy guide as to the therapeutic strength of the drug"), states that "he has come to the conclusion that cornutin assay is not a criterion of therapeutic value."

Three principal methods have been proposed for the physiologic standardization of ergot, the cock's comb, the uterine, and the blood-pressure methods; all are in use and the chief object of the present work was to determine which is the most trustworthy. Inasmuch as ergot is ordinarily used for the purpose of influencing the activity of the uterus, the authors considered that a method based on the effects of the drug on this organ would have the most value. They found that different observers, working independently of each other, were by this method able to obtain concordant and satisfactory results. It is, however, tedious and somewhat expensive, and the authors were gratified to find a close parallelism between the results obtained by this method and those obtained by the "cock's comb method," which was introduced into this country some years ago by Houghton. No constant relation was found between the results obtained by these methods and the effects on the blood-pressure, a result readily explained by the fact that ergot contains, in varying amounts, certain amins which have a greater action, proportionately, on the blood-pressure than on the uterus.

The authors recommend for practical purposes, the cock's comb method. It is suggested that ergotoxin, one of the alkaloids of ergot, may be taken as a standard and that the strength of fluidextracts may be adjusted so that 2 c.c. equals in physiologic action 5 mg. of ergotoxin.

The primary object of the bulletin was to test the value of the various methods. The subject in which the practitioner is most interested, the comparative value of the preparations of ergot on the American market, received less attention; but some of the results are of much interest from this point of view. The preparations examined consisted in fluidextracts, prepared by the authors themselves, and in commercial preparations purchased on the open market in both Washington and Ann Arbor. In addition certain specimens were obtained directly from the manufacturers. The fluidextracts made by the authors themselves according to the U. S. P. were more active (usually from two to four times as active) as the commercial fluidextracts. Such results suggest that a reliable pharmacist following the official method may be able to supply the physician with as good preparations as the large manufacturing houses, or even better. The authors remark that the fact of the commercial preparations being usually inferior need not be considered a reflection on the manufacturers, as it may be merely the result of aging, but that in view of this deterioration it would be desirable for the date of manufacture to be stated on the bottles.

The case is different, however, with a number of special, proprietary preparations, for these are generally claimed to be permanent and often to be much more active than the official preparations. The most active of the special preparations examined was "cornutol," which was found to be as active as the best fluidextract; it is claimed, however, to be two and one-half times as active as the latter. If this statement be true of this preparation, the specimen examined had evidently undergone deterioration. The "concentrated purified ergot" of another firm was found to be only about three-fourths as active as a good fluidextract. A specimen of "ergotole" was found to be only one-third as strong as a good fluidextract although the manufacturers claim it to be two and one-half times as strong as the latter; much emphasis is laid by the manufacturers on its being a "permanent solution" which "does not change with age," and is "therefore always reliable." Two samples of "ergone," another proprietary preparation claimed to be "permanent," were examined. The sample obtained directly from the manufacturer was somewhat more than half as active as the authors' fluidextract; the other sample, obtained through the usual channels of trade, was almost devoid of physiologic activity. The "permanent" preparation had evidently deteriorated greatly.

Although, as was said above, the authors do not lay especial emphasis on the results obtained with the commercial preparations, being chiefly interested in the general principles involved, these are sufficient to emphasize the need of far more care and accuracy on the part of manufacturers, both as to their preparations and the claims made for them.[2]

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[1] Edmunds, C. W., and Hale, Worth: The Physiological Standardization of Ergot, Hy; Lab. Bull. 76. This bulletin may be obtained by addressing the Surgeon-General of the P. H. and M.-H S.

It is doubtful whether uniform preparations of ergot and digitalis will be available until the U. S. Government adopts a system of continuous control similar to that which has proved so satisfactory in the case of antitoxins, vaccine virus, etc.; manufacturers are failing to supply satisfactory preparations of these drugs just as they failed to supply antitoxins, etc., of uniform value until the passage of the law placing them under the control of the Public Health and Marine-Hospital Service.

THE GRAND CLIMACTERIC IN MAN

That man, passing through life, is subject in certain years to special dangers is an idea now tenaciously held by many, and one which, since very early times, seems to have appealed to the minds of both medical and lay observers. The antiquity of the conception is illustrated by the etymology of the word "climacter"; it is derived from the Greek κλιμακτήρ which means literally, "a step of a stair-case or ladder," though it was used also to designate "a dangerous period of life." References to "climacterical years," or to the "grand climacteric," are to be found in the writings of older English authors, including Sir Thomas Browne in his "Vulgar Errors," Massinger in "The Old Law," and Burke in his "Reflections." Every seventh or ninth year was considered dangerous, most of all the sixty-third year of a man's life.

That some relation exists between certain of these critical periods and the sexual functions has also long been maintained. In both male and female, the fourteenth year corresponds approximately to puberty, and, in woman, the forty-second, or the forty-ninth year, is not uncommonly the date of the menopause. In man, at the age of sixty-three—his *grand climacteric*—some assume that, owing to the cessation or marked diminution of the activity of the testicles, a profound change takes place in the body and that this change corresponds closely to that supposedly dependent on the more sudden alteration in the function of the ovaries at the menopause in woman.

That certain tolerably characteristic symptoms, not unlike those presented by women at the "change of life," are undoubtedly manifest in many men at about the age of sixty-three, will be vouched for not only by physicians in general practice, but also, particularly, by nerve-specialists, to whom the patients ordinarily turn for relief. On the symptoms referred to attention has recently been focused again in the articles of Mendel[1] and of Fürst.[2] The most striking of the disturbances attributed to the *climacterium virile* are a certain lack of emotional control and a tendency to shed tears, combined with more or less outspoken signs of depression, disinclination for exertion, lack of will-power, and irritability. Other symptoms, sometimes prominent, are dizziness, a sense of pressure in the head, hot flushes, and palpitation of the heart.

In connection with these observations the questions at once arise whether these symptoms are, in reality, due to a disturbance of internal secretion of the testicles, or whether they can be the result of the arteriosclerosis which develops, almost with regularity, at about this age, and if there may not possibly be a relation between testicular function and vascular integrity in the male. In the present state of science these are queries not at all easy to answer.

Those who defend the doctrine of the sexual origin of the male climacteric point to the nervous emotional and vasomotor phenomena which follow castration, analogous to the menopause symptoms artificially called forth in women by double oophorectomy. Though they admit the plausibility of the objection that the natural male climacteric may depend on arteriosclerosis rather than on retrogression of the activity of the sexual glands, they argue that the arteries are not always sclerosed when the symptoms appear and that, when they are, the sclerosis might be looked on as evidence of the importance of the internal secretion of the testicles for the normal regulation of the circulatory apparatus and for the welfare of the general metabolism.

According to another opinion, recently expressed, the symptoms under discussion, though dependent on anomalies of internal secretion, owe their origin not to changes in the functions of the testicles alone, but, in addition, to alterations in the activities of other related glands, notably the prostate. It seems to be undeniable that some functional connection between the prostate and the testicles exists. Paul's studies[3] indicate that the enlargement of the prostate in advanced life is a retrogressive process, perhaps comparable to the chronic atrophic or inflammatory change in the female breast at the menopause. It is conceivable that further study may prove that the symptoms so often presented by men in their early sixties are due to polyglandular insufficiency.

Fascinating as these several hypotheses are, sober-minded medical men will, until evidence of validity is compelling, refrain from too ready acceptance of any one of them. Such hypotheses are, however, valuable as stimuli to more exact observation and to the extension of experimental inquiry; it is, accordingly, worth while occasionally to review the opinions put forward and the work which is being done in connection with so interesting a matter as the male climacteric.

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[2] The results of such studies as these are one reason why some of the widely advertised specialties of some American firms do not appear in N. N. R.

1. Mendel: Neurol. Centralbl., 1910, No. 20.

2. Fürst: Umschau, 1911, xv, 507.

3. Paul: Lancet, London, 1910.

THE ETIOLOGY OF BERIBERI

So many observations have been reported of late favoring the belief that beriberi is caused by a dietary insufficiency, that this conclusion is now apparently well established. In a recent contribution to the subject, Fraser and Stanton[1] not only have furnished additional evidence toward this view, but have carried the investigation of the dietary factor peculiarly lacking to a point previously unattained.

The employment of 300 native laborers in the construction of a road through virgin Malayan jungle offered an unusually favorable opportunity for their work. By properly examining all candidates for employment it was possible to exclude with a presumption of certainty men already suffering from the disease; and regulation of all sanitary conditions precluded the possibility that these might influence the results. The laborers so circumstanced were divided into two equal parties, and housed some distance apart. One section was then fed on polished rice as the staple article of diet, the other on rice which had been parboiled before husking. The latter grain differed from the former in the preservation of a great part of the subpericarpal layers, which are removed almost wholly by the more usual methods of polishing. Of the two parties, the men fed on polished rice began to develop cases of beriberi in three months, without the appearance of any cases in the other section. Conditions were then reversed, and after a somewhat longer period, the party previously exempt began to suffer from the disease, without any cases originating in the control party. The influence of place and the possibility of communicability were tested by the transfer of groups of sufferers, with negative results.

The polished rice thus responsible for the human disease was then tested by feeding to fowls. Eijkman[2] and others had previously shown that by feeding chickens on such grain it was possible to produce in them an affection very closely resembling human beriberi, both clinically and anatomically. Basing their experiments on this, Fraser and Stanton were able to cause a peripheral neuritis almost at will. It was found that the polished grain invariably caused the disease in a large proportion of the fowls if fed to them for a sufficient time. Substitution of parboiled rice, and the addition to the polished rice of the parts removed in polishing, served to protect the animals. Attempts to extract a soluble poison from the polished grain were unsuccessful, but on the other hand the extraction of unpolished rice with alcohol destroyed its protective power. The clue so obtained was followed up, and Fraser and Stanton succeeded in isolating to a certain point the element essential for protection. In addition to being extracted by alcohol, it was dissolved by 0.3 per cent. hydrochloric acid. An important constituent so removed is phytin—a complex organic compound with a high percentage of phosphorus pentoxid. As the amount of phosphoric acid in the grain had been found to give an index to its power to prevent neuritis, it was first thought that this might be the desired constituent; but feeding experiments contradicted this view, while the extract after removal of the phytin was still effective.

Although it has not so far been absolutely proved that the peripheral neuritis of fowls is identical with beriberi, there is no good reason for the contrary belief, so that quite probably the results of Fraser and Stanton will be found directly transferable to the human disease. While they unfortunately did not succeed in the ultimate isolation of the essential dietary factor, they have apparently carried the problem much further along, and more investigation should soon clear up its last uncertainties.

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[1] Studies from the Inst. for Med. Research, Federated Malay States, 1911, No. 12, p. 1.

[2] Eijkman: Virchow's Arch. f. path. Anat., 1897, cxlviii, 523.

Current Comment

THE GREAT LAKES AS A WATER-SUPPLY

A movement of significance to a vast population was inaugurated at the recent meeting of the Municipal Congress in Chicago in the action looking toward the preservation of the purity of the Great Lakes as the most available water-supply for the cities and towns along their borders. The Great Lakes Basin International Pure Water Association was there formed, including in its membership city health officers, sanitary engineers and others, from both sides of the Canadian border-line. Each of the eight states and the two Canadian provinces bordering on the lakes is to have two official delegates, one appointed by the governor of each state or province, and the other by the health authorities. A temporary organization was formed and officers selected. The organization will be made permanent, and permanent officers elected on the appointment of the official delegates as provided above. It is expected that the Lake Michigan Water Commission will be merged with this organization. Canada has begun agitation for laws controlling the discharge of sewage into the Great Lakes, and the present organization will make the movement international. The Lake Michigan Water Commission was formed in 1908 to study the pollution of Lake Michigan. This commission was composed of representatives of the United States Public Health and Marine-Hospital Service, the engineering department of the War Department and the state and municipal health authorities of the states surrounding Lake Michigan. Much valuable work was done by this commission in the study of the contamination of the lakes, and reports have been made from time to time. Largely as the result of this study, it has been found necessary by the cities along the lakes deriving their water-supply from this source to extend their intakes farther and farther from the shores to avoid pollution. Even this is found not to surmount the difficulty altogether, as with the increasing volume of sewage discharged into the lakes because of the rapid increase in population and temporary or accidental storm conditions affecting the lake currents, the pollution is found to extend farther and farther from the shore. Pollution from passing shipping has also been determined to be a source of contamination which must be taken into consideration. The present organization seeks to apply such study to conditions along the whole body of the Great Lakes and to promote such legislation as is necessary to preserve the purity of the water-supply. The question is of increasing importance to the people affected. Chicago found it necessary to build a drainage canal which has only partially, and perhaps only temporarily, overcome the difficulty for a portion of the city and is now engaged in constructing another canal to give relief to the southern section of the city in the Calumet region. Many other cities along the lakes have individually put forth efforts to overcome to some extent the pollution of their water-supply, but the question is not wholly a local one and is far from being settled. This new organization ought to aid in bringing the necessity for concerted action before all the people concerned, and will, no doubt, result in both state and national action by the two governments with the effect of preventing, in large measure, the continued pollution of this great source of urban water-supply.

SMALL-POX IN THE UNITED STATES IN 1910

The number of cases of small-pox in the United States reported to the United States Public Health and Marine-Hospital Service for the year 1910 was 30,352, with 415 deaths. Complete reports were furnished by twenty-seven states, only partial reports being received from the others on account of their having no vital statistics laws. The total number of cases occurring, therefore, was no doubt considerably more than the figures quoted. The light death-rate, however, indicates that the infection was mild, as it has been throughout the past ten or twelve years of its prevalence in the United States; and yet in some instances, for reasons not apparent, the disease assumed considerable virulence and the death-rate ran up to 50 per cent. of the cases, as in the instance of thirty-eight cases reported from a certain district in Michigan during the months of October, November and December, 1910. This merely emphasizes what is well known—that the disease may at any time assume a virulent form and in non-vaccinated communities work great havoc. Though the number of deaths (415) is small, it is too large to represent the sacrifice in one year to a wholly preventable disease. In this day of general preventive medical measures, the occurrence of over thirty thousand cases of small-pox, with the attendant deaths, is discreditable to the wisdom of the people among whom they occur. Failure to insist on the enforcement of a protective measure that has proved its effectiveness for almost a hundred years invites the reflection that even in as progressive a country as ours compulsory general vaccination may yet have to be adopted, as it has been in Germany, Japan, Cuba, Porto Rico and the Philippines. Protective vaccination against some other infectious diseases, as typhoid, cholera and plague, seems to be demonstrating its value, but has not yet reached the point of such absolute proof by repeated trial and voluminous statistics as in the case of small-pox. Failure to benefit by the application of this proved procedure probably tends to postpone the employment of other preventive or protective measures. Small-pox, the first of the infectious diseases in which successful preventive inoculations have been applied, should long ago have disappeared from the face of the earth, or at least from civilized communities.

SUDDEN DISASTER AND CONSTANT DISEASE

The nation has been shocked by another appalling disaster, this time in Pennsylvania. A dam built across a narrow gap between two hills to hold back a vast volume of water, suddenly gave way. The flood poured down the valley, carrying death and destruction with it. Reports indicate that from 40 to 50 lives were lost in a few minutes. A wave of sympathy swept over the country. Red Cross physicians and nurses hastened to the scene. Food, clothing, hospital supplies and money poured into the death-swept valley. Special trains loaded with supplies and men started for the town almost as soon as the news of the disaster was received. The State of Pennsylvania and the entire nation, if necessary, stood ready to relieve suffering and to save life, without regard to the cost in labor or money. All this is right; nor should it be otherwise. Yet how strange that our sympathies should be aroused to immediate and purposeful action by the loss of 50 lives in a sudden and unusual way, yet leave us callous and indifferent to the fate of thousands who die from preventable but familiar causes. A Johnstown flood, an Iroquois fire, a San Francisco earthquake, will convulse the world with horror, yet the death from preventable diseases of over 600,000 people in the United States each year excites little interest. The newspapers announce the Austin disaster with front page "stories" and enormous head-lines, yet the United States Census report for 1908 (the last one available) shows that in that year in Pennsylvania alone, 2,450 people died of typhoid, 1,920 of diphtheria, 8,703 of tuberculosis, and that 9,026 infants under 2 years of age died of infantile diarrhea, a total mortality of 22,099 from only four preventable diseases in only one state. So accustomed are we to these enormous losses through familiar diseases, that we accept them as a matter of course and as the inevitable lot of mankind. Yet each of these diseases is as preventable as was the Austin flood.

SANITARY CONDITIONS IN THE COUNTRY

It is well known that advances in public sanitation have been much more rapid and effective in cities than in rural districts. Surface privies, the ubiquitous fly, and the horse manure pile which is its chief breeding-place, all combine to maintain the prevalence of typhoid fever in rural districts on a practical equality with that of the cities in the same districts. Infantile diarrhea, dysentery and tuberculosis exist in the country to a degree seemingly out of proportion to the exposure to infected water and food supplies. Speaking generally, farm life perhaps deserves its reputation for health-giving qualities. In this respect it is potentially as nearly perfect as any reputed health resort. The conditions rendering country life unhealthful are such as could easily be overcome, and with far less expense to the individual than in the city. Sanitary privies are easily and cheaply constructed; kitchen garbage can be protected from flies at a nominal cost, and the chief breeding-places of the fly can be rendered inaccessible without great trouble. The two factors most essential to a betterment of conditions are a campaign of education in sanitary matters among the people themselves and a more efficient organization of the local sanitary police force of the rural districts. As an example worthy of emulation, the work undertaken a few years ago by the New York State Department of Health is to be commended. Since 1907 it has carried on a system of inspecting summer resorts to determine any existing insanitary conditions which might be detrimental to the health of guests and to arrange for the amelioration of such conditions. The work of inspection each year has been confined to summer hotels and boarding-houses having accommodations for more than twenty-five persons, which are not connected with municipal water-supply and sewerage systems. During 1909, 259 out of 307 such resorts were found to maintain unhealthful conditions. The fault was generally in connection with privies and sewage disposal, though unsatisfactory water-supplies, defective plumbing and manure piles came in for a share of the censure. The matter of improving the sanitary condition of these 259 resorts was taken up with their proprietors, and as a result 156 had their places in good order during the inspection of the summer just past, leaving 103 of the original 259 still open to criticism. A list of these insanitary resorts is printed in the *Monthly Bulletin*.[1] The name of the resort, its location and its specific sanitary inadequacies are all placed in tabulated form on the first page. As this publication enjoys a large circulation among the laity, this ought to be a most efficient way of influencing the proprietors of these places to remedy the evil conditions. Practically every public library in the city of New York and throughout the state has the *Bulletin* in a conspicuous place on its reading-tables and in this way there is a "black list" of undesirable resorts at all times open for public inspection. Other states might profitably follow the example of New York. This work should also have a salutary effect in inducing non-resort rural communities to improve general sanitary conditions.

PRIZE CARTOONS

The Committee on Scientific Exhibit of the American Medical Association offered a prize of $200 for the best series of cartoons that should be exhibited at the Los Angeles session. The prize was awarded to Mr. Charles Batchelor, of Kansas City, who exhibited six cartoons. Although this was the first time such an offer had been made, the response was most gratifying; twenty-five contestants exhibited over 150 cartoons. The first of the series we published last week, and the second appears in this issue. It is the plan to print one each week hereafter until the series is completed. Arrangement has been made for the continuance for some time of other cartoons that will be of general medical interest.

Medical News

ILLINOIS

New Hospital.—The new Sparks Hospital, Carlyle, was formally dedicated, September 21. The hospital occupies site of the Lucas residence, to which an extensive addition has been built.

Personal.—Dr. John Haig, Le Roy, was injured recently by falling down a grain chute in an elevator.——Dr. Charles B. Dirks, Kankakee, has been appointed acting superintendent of the Elgin State Hospital.——Dr. Josiah M. Cody, Tremont, has been reappointed physician of Peoria County.

Chicago

Spinelli at Chicago.—Dr. Pier Giuseppe Spinelli, professor of gynecology of the Royal University of Naples, Italy, who has been visiting the Mayo Clinic at Rochester, Minn., is visiting in Chicago, and has been entertained by his countrymen and by the local medical association.

Personal.—Dr. and Mrs. Charles Adams, Dr. Vernon C. David, Dr. and Mrs. Glenn M. Hammon, Drs. Addison E. Elliott and Elmer L. Kenyon have sailed for Europe.——Dr. and Mrs. Arthur Geiger, Dr. and Mrs. L. L. McArthur, and Dr. Stephen C. De Veny have returned from Europe.——Dr. George J. Spencer, city physician, is reported to be seriously ill with pneumonia.

New German Hospital.—Plans have been approved for a new building to be occupied by the German Hospital of Chicago. The present building will be pulled down, and a new one erected. Mrs. Conrad Seipp has given $150,000 toward the improvement of the hospital in memory of her son and husband and this has been augmented by gifts from other friends of the institution, aggregating $100,000.

INDIANA

Asks for an Assistant.—Dr. J. P. Simonds, head of the pathological laboratory of the State Board of Health, Indianapolis, has asked for an additional pathologist, to be assigned to duty October 1.

Alumni Organize.—About forty alumni of the Kentucky School of Medicine held a meeting at the Denison Hotel, Indianapolis, during the meeting of the State Association, and formed a permanent organization. Dr. James B. Duncan, of Bedford, Ind., was elected president, Dr. Thomas C. Kennedy, of Indianapolis, secretary, and Dr. Daniel C. Peters, of Greentown, treasurer.

Defense Fund for Physicians.—The creation of a defense fund for the legal protection of physicians who are made the victims for suits for alleged malpractice was the most important matter before the house of delegates of the State Medical Association. The report of the committee as adopted provides that 75 cents should be set aside from the annual dues of each member for the defense fund. This will bring in about $1,800 a year.

Personal.—Dr. William W. Kemper, Muncie, has given up the practice of medicine and has moved to his farm near Lancaster, Ohio, where he will engage in agricultural pursuits.——Dr. Victor V. Bacon, Michigan City, secretary of the local board of health, is about to leave Michigan City and settle in Spokane, on account of the health of Mrs. Bacon.——Dr. Asa W. Brown, health officer of Bluffton, has resigned.——The condition of Dr. Adoniram J. Banker, Columbus, who is seriously ill at a sanatorium in Indianapolis, is reported to be improved.

State Society Meeting.—The Indiana State Medical Association met in annual session at Indianapolis, September 27, 28, 29. More than 700 physicians registered at the meeting and a medical achievement banquet was given on the night of September 28. This banquet was notable on account of the fact, although there were several thousand present, yet hundreds were turned away for lack of room. The principal speaker was Dr. Harvey W. Wiley, who spoke on "The Public Health Our Greatest Asset." Indianapolis was chosen as the meeting place for next year, and the following officers were elected: president, Dr. William F. Howatt, Hammond, Ind.; vice-presidents, Drs. George E. Keiper, Lafayette, Bader S. Hunt, Winchester, Dr. Thomas F. Spink, Washington, and secretary, Dr. Charles N. Combs, Terre Haute (reelected); delegates to the American Medical Association, Drs. J. Rilus Eastman, Indianapolis, and Edwin Walker, Evansville; and alternates, Dr. William R. Davidson, Evansville, and Dr. George R. Osborn, Laporte. Dr. Osborne also was elected as the tenth district member of the board of councilors, this being the only change in the board. A resolution was adopted by the house of delegates creating a new section of the association. It will be known as the eye, ear, nose and throat section, and it will hold sessions at the meeting next year.

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[1] Monthly Bulletin N. Y. State Department of Health, August, 1911

MARYLAND

Monument for Revolutionary Surgeon.—The grave of Assistant Surgeon Richard Waters of the Maryland Line Continetal Army at Laytonsville is to be marked by a monument. The ceremony will take place October 7, and will be under the charge of the Daughters of the American Revolution.

Hospital to be Opened.—The new Havre de Grace Hospital will be formally opened, October 16. The new institution is located in the old Baker Home, which has been remodeled at the cost of $12,000, and later a $6,000 addition will be built. Among the directors are Drs. James Lee Hopkins, secretary, and Frederick W. Steiner.

Personal.—Dr. Charles L. Mattfeldt has been elected president of the Catonsville Country Club.——Dr. Harry F. Shipley, Granite, who was recently a patient at the University Hospital, Baltimore, has recovered and returned home.——Rt. Rev. Luther B. Wilson, M.D., has recovered from his recent attack of African fever and has gone to Syracuse, N. Y.

Baltimore

To and from Europe.—Drs. William M. Dabney and George H. Everhartd have sailed for Europe, and Drs. Emil Novak, Anton G. Rytina, John Ruhräh and William C. Baer have returned from abroad.

Kelly Recovered.—Dr. Howard A. Kelly left Rochester, Minn., September 21 for his camp at Indian Point, 150 miles northwest of Toronto, Ont., and he expects to return to Baltimore about the end of October.

New Department in the University.—A new department is to be inaugurated in Johns Hopkins Hospital this fall, namely that of art as applied to medicine. It will be under the charge of the associate professor Max Broedel, who has had charge of the medical illustration department of the hospital for several years. Two classes are to be provided for medical students and artists. The purpose of the department is "to bridge over the gap existing between art and medicine, and to train a new generation of artists to illustrate medical journals and books in the future, and to spare them the years of trial and disappointment of their self-taught predecessors."

Personal.—Drs. Mary Sherwood and Joseph E. Gichner have been reappointed members of the Public Bath Commission.——Dr. Christian Deetjen has recovered from the operation which he underwent at St. Agnes' Hospital in June last for *x*-ray burns. Fourteen of these spots were removed from the hands of Dr. Deetjen and replaced by fresh skin grafts from the thighs of the patient.——Dr. Willis D. Gatch has resigned from the staff of Johns Hopkins Hospital to become professor of surgery in the Indianapolis Medical College.——Dr. J. P. Pratt has been made assistant resident surgeon in Johns Hopkins Hospital, and Dr. W. E. Dandy has been appointed assistant to Dr. Harvey W. Cushing.

MICHIGAN

Personal.—Dr. Herman H. Ruonavaara, Calumet, has given up general practice in order to study through the winter.——Drs. John E. Handy, Caro, and John G. Maurer, Watrousville, sustained cuts and bruises in an automobile accident, near Watrousville, September 19.—Drs. John H. Kellogg and James T. Case, Battle Creek, have sailed for Europe.

Physicians Honor Carstens.—A complimentary banquet was given to Dr. John Henry Carstens of Detroit, by his colleagues, September 27, in honor of his service in contributions to the medical profession. Dr. Henry O. Walker, Charles G. Jennings and Eugene Smith acted as toastmasters. The toasts took up various characteristics of Dr. Carstens. Dr. Theodore A. McGraw spoke of him as a student, practitioner and surgeon. Dr. Colonel B. Burr, Flint, president of the state medical society, spoke of Dr. Carstens' service to the profession of the state of Michigan. Dr. Joseph L. Hudson, Detroit, one of the managers of the Harper Hospital, eulogized Dr. Carstens as a hospital chief and citizen. Dr. Ernest L. Shurly, Detroit, spoke of Dr. Carstens as a friend and colleague, and Walter Hume Sawyer, Hillsdale, regent of University of Michigan, has as his subject, "Specialties." Governor Osborn paid a high tribute to the entire medical profession, and closed by saying: "Here to-night you are recognizing a master among you and that proves that you are all masters in your profession."

MISSOURI

Applicants for License Must Have Clear Record.—The State Board of Health has instituted a system of checking the courses in medical colleges taken by applicants for license to practice. Whenever it appears that any one of the courses has been taken in a college not on the accredited list the applicant will be denied the right to take the examination.

Dr. Wheeler Sustained.—The Hospital and Health Board of Kansas City has exonerated the health commissioner, Dr. Walter S. Wheeler of all charges brought against him by the milk producers' association. The board praised the work of Dr. Wheeler; it declared there had been no favoritism in dealing with dairymen, and that the milk-supply of the city was much better than it was before the campaign which Dr. Wheeler started. The investigation was ordered by the mayor on complaints brought by the milk producers' association.

St. Louis

Local Schools Disqualified.—The daily papers of October 1 and 2 announce that Barnes University and the College of Physicians and Surgeons, which are preparing to consolidate, were stricken off the list of approved schools by the State Board of Health, September 30, on account of numerous deficiencies. Inadequacies in methods of teaching were disclosed, and the laboratories of both are said to have been found defective, and the records so incompletely kept as to give no positive evidence as to the completeness of the course their students have been receiving.

Wiley Addresses City Club.—Dr. Harvey W. Wiley, chief of the Bureau ot Chemistry, was entertained at luncheon by the City Club, September 27. About 400 members attended and listened with rare appreciation to the address Dr. Wiley delivered on "Public Health, the Nation's Greatest Asset." He declared that the most precious thing in St. Louis was its citizenship. He said the average human adult costs his parents and the state $12,000 and the annual loss through deaths from preventable diseases would far out-total the capital of all the banks and public utilities in the city. He made a strong plea for the conservation of the health of the people.

NEBRASKA

Asylum Changes.—The governor of Nebraska announced September 28 that he would retain Dr. Benjamin F. Williams as successor to the late Dr. John T. Hay, superintendent of the Nebraska Hospital for the Insane, Lincoln, until Jan. 1, 1912, and that he will then appoint Dr. Gustav W. Dishong, superintendent of the institution.

NEW YORK

Personal.—Dr. Arthur E. Soper of Northport has been appointed junior physician at the Manhattan State Hospital.——Dr. Fred M. Meader, Syracuse, has succeeded Dr. Willis W. Waite, as bacteriologist of Syracuse.

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MARYLAND

Monument for Revolutionary Surgeon.—The grave of Assistant Surgeon Richard Waters of the Maryland Line Continetal Army at Laytonsville is to be marked by a monument. The ceremony will take place October 7, and will be under the charge of the Daughters of the American Revolution.

Hospital to be Opened.—The new Havre de Grace Hospital will be formally opened, October 16. The new institution is located in the old Baker Home, which has been remodeled at the cost of $12,000, and later a $6,000 addition will be built. Among the directors are Drs. James Lee Hopkins, secretary, and Frederick W. Steiner.

Personal.—Dr. Charles L. Mattteldt has been elected president of the Catonsville Country Club.——Dr. Harry F. Shipley, Granite, who was recently a patient at the University Hospital, Baltimore, has recovered and returned home.——Rt. Rev. Luther B. Wilson, M.D., has recovered from his recent attack of African fever and has gone to Syracuse, N. Y.

Baltimore

To and from Europe.—Drs. William M. Dabney and George H. Everhartd have sailed for Europe, and Drs. Emil Novak, Anton G. Rytina, John Ruhräh and William C. Baer have returned from abroad.

Kelly Recovered.—Dr. Howard A. Kelly left Rochester, Minn., September 21 for his camp at Indian Point, 150 miles northwest of Toronto, Ont., and he expects to return to Baltimore about the end of October.

New Department in the University.—A new department is to be inaugurated in Johns Hopkins Hospital this fall, namely that of art as applied to medicine. It will be under the charge of the associate professor Max Broedel, who has had charge of the medical illustration department of the hospital for several years. Two classes are to be provided for medical students and artists. The purpose of the department is "to bridge over the gap existing between art and medicine, and to train a new generation of artists to illustrate medical journals and books in the future, and to spare them the years of trial and disappointment of their self-taught predecessors."

Personal.—Drs. Mary Sherwood and Joseph E. Gichner have been reappointed members of the Public Bath Commission.——Dr. Christian Deetjen has recovered from the operation which he underwent at St. Agnes' Hospital in June last for *x*-ray burns. Fourteen of these spots were removed from the hands of Dr. Deetjen and replaced by fresh skin grafts from the thighs of the patient.——Dr. Willis D. Gatch has resigned from the staff of Johns Hopkins Hospital to become professor of surgery in the Indianapolis Medical College.——Dr. J. P. Pratt has been made assistant resident surgeon in Johns Hopkins Hospital, and Dr. W. E. Dandy has been appointed assistant to Dr. Harvey W. Cushing.

MICHIGAN

Personal.—Dr. Herman H. Ruonavaara, Calumet, has given up general practice in order to study through the winter.——Drs. John E. Handy, Caro, and John G. Maurer, Watrousville, sustained cuts and bruises in an automobile accident, near Watrousville, September 19.—Drs. John H. Kellogg and James T. Case, Battle Creek, have sailed for Europe.

Physicians Honor Carstens.—A complimentary banquet was given to Dr. John Henry Carstens of Detroit, by his colleagues, September 27, in honor of his service in contributions to the medical profession. Dr. Henry O. Walker, Charles G. Jennings and Eugene Smith acted as toastmasters. The toasts took up various characteristics of Dr. Carstens. Dr. Theodore A. McGraw spoke of him as a student, practitioner and surgeon. Dr. Colonel B. Burr, Flint, president of the state medical society, spoke of Dr. Carstens' service to the profession of the state of Michigan. Dr. Joseph L. Hudson, Detroit, one of the managers of the Harper Hospital, eulogized Dr. Carstens as a hospital chief and citizen. Dr. Ernest L. Shurly, Detroit, spoke of Dr. Carstens as a friend and colleague, and Walter Hume Sawyer, Hillsdale, regent of University of Michigan, has as his subject, "Specialties." Governor Osborn paid a high tribute to the entire medical profession, and closed by saying: "Here to-night you are recognizing a master among you and that proves that you are all masters in your profession."

MISSOURI

Applicants for License Must Have Clear Record.—The State Board of Health has instituted a system of checking the courses in medical colleges taken by applicants for license to practice. Whenever it appears that any one of the courses has been taken in a college not on the accredited list the applicant will be denied the right to take the examination.

Dr. Wheeler Sustained.—The Hospital and Health Board of Kansas City has exonerated the health commissioner, Dr. Walter S. Wheeler of all charges brought against him by the milk producers' association. The board praised the work of Dr. Wheeler; it declared there had been no favoritism in dealing with dairymen, and that the milk-supply of the city was much better than it was before the campaign which Dr. Wheeler started. The investigation was ordered by the mayor on complaints brought by the milk producers' association.

St. Louis

Local Schools Disqualified.—The daily papers of October 1 and 2 announce that Barnes University and the College of Physicians and Surgeons, which are preparing to consolidate, were stricken off the list of approved schools by the State Board of Health, September 30, on account of numerous deficiencies. Inadequacies in methods of teaching were disclosed, and the laboratories of both are said to have been found defective, and the records so incompletely kept as to give no positive evidence as to the completeness of the course their students have been receiving.

Wiley Addresses City Club.—Dr. Harvey W. Wiley, chief of the Bureau of Chemistry, was entertained at luncheon by the City Club, September 27. About 400 members attended and listened with rare appreciation to the address Dr. Wiley delivered on "Public Health, the Nation's Greatest Asset." He declared that the most precious thing in St. Louis was its citizenship. He said the average human adult costs his parents and the state $12,000 and the annual loss through deaths from preventable diseases would far out-total the capital of all the banks and public utilities in the city. He made a strong plea for the conservation of the health of the people.

NEBRASKA

Asylum Changes.—The governor of Nebraska announced September 28 that he would retain Dr. Benjamin F. Williams as successor to the late Dr. John T. Hay, superintendent of the Nebraska Hospital for the Insane, Lincoln, until Jan. 1, 1912, and that he will then appoint Dr. Gustav W. Dishong, superintendent of the institution.

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GENERAL NEWS

Leper Deported.—Acieto Paleby, a Philippino leper, who has been held in isolation in Washington for six months, was deported on the transport *Dixon* which sailed from Seattle for Manila, September 15.

District Association Meeting.—The fall meeting of the Iowa and Illinois Central District Medical Association will be held in the Harms Hotel, Rock Island, Ill., October 12, under the presidency of Dr. Herbert M. Decker, Davenport.

Army Medical School Opens.—The Army Medical School, Washington, opened for its regular term, October 2. Fifty-eight candidates for appointment for the medical corps, who have successfully passed the examination, reported for duty.

Health Experts' Conference.—The annual conference of the New York State Department of Health will be held in New York City, October 25. Health departments of adjoining states will be represented by delegates. E. J. Lederer, Health Commissioner of New York City, will speak on the "Activity of the Health Department."

Health Lectures in Canal Zone.—A series of health lectures is being given in Colon, under the auspices of the Cristobal Women's Club, and the success of the series has been so marked that it is probable that similar lectures will be given in the other American villages in the zone. The first lecture was on tuberculosis and was illustrated; the second was on the typhoid germ and the danger of the house fly.

National Conservation Congress.—At the third meeting of the National Conservation Congress held at Kansas City, September 26, the congress adopted resolutions approving the work of the United States Government in improving sanitary conditions and in lowering the death-rates of Cuba, the Philippine Islands and the Canal Zone; expressing satisfaction that in 1911 the national government, through its wise provisions for the maneuver division of the United States Army operating in Western Texas, demonstrated that the achievements in health and life security found possible in Cuba, the Philippine Islands and the Canal Zone, are possible with Americans on American soil; calling on our national, state and municipal governments to accomplish the same results for the people of the United States; calling attention to the fact that the national government, in the Canal Zone of Panama, has demonstrated that Caucasians, properly directed, can work in the tropics and semi-tropics without loss of efficiency; expressing the opinion that this is one of the monumental discoveries of the age; endorsing the efforts of the hookworm commission and all other efforts, governmental and extra-governmental, for increasing human efficiency through promotion of physical welfare, and calling on our governments—national, state and municipal—to increase their activities along these lines; favoring a child welfare bureau as a part of the health department of the national government, and each state and municipal government endorsing the plan of bringing together, under one direction, the various human health activities of the United States Government as a coordinated branch of its administrative work, divorced from the impediment of being a part of other administrative work of an entirely different character and conducted for entirely different purposes—this in order that the efficiency of the service may be increased to a point in some degree commensurate with its importance; protesting against the present rank neglect of health and life security, and of work for physical efficiency by the national, state and municipal governments, asking that they be given that study and care that has proved so broad an economy in the case of live stock and farm crops, and reaffirming its belief in the health conservation principles and methods endorsed by the Second National Conservation Congress. Other resolutions were also adopted, one on the pollution of streams, by sewage and trade wastes, which called on all governments to pass legislation to prevent the pollution of all waters and coast waters, and to formulate regulations regarding the pollution of streams, conforming to the requirements of the law already in force in Pennsylvania; and also one amplifying that of the American Medical Association, advocating that public health be taught in all schools and enumerated ten conditions against which there should be legislative and administrative action. These included blindness of infants, birth accidents, infant mortality, communicable diseases of childhood, work by immature children, occupational diseases and occupational accidents, especially transportation and mining. The congress emphatically showed its approval of the national department of health, by tabling by an almost unanimous vote a motion to strike out an endorsement of such a department. The speeches best received were those on medical subjects and that of Dr. Harvey W. Wiley received more applause than any other address presented. The address by Judge Ben Lindsay of Denver on "The Care of the City and Country Child," also received much attention. He considered chiefly the physical side, the diseases of childhood and infant mortality and the neglect of the health side of the child. The suggestion for a national child's bureau was formulated. It must be understood that this congress was chiefly devoted to soil conservation and soil fertility and most of the delegates were connected with farming, mining, forestry and water interests, and that these problems consequently were chiefly in evidence.

International Pure Water Association.—The Great Lakes Basin International Pure Water Association was organized in Chicago, September 29, and the following officers were elected: President, Dr. Clyde E. Ford, health officer of Cleveland, O.; vice-president, Dr. Chas. J. C. O. Hastings, health officer of Toronto, Ont.; secretary, Prof. Edward Bartow, Urbana, Ill.; editor, Dr. William A. Evans, Chicago; and member of the executive committee, Dr. Francis E. Fronczak, Buffalo, N. Y. The reason for the formation of the association is the growing pollution of the water of the Great Lakes.

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For all the larger German cities, the mortality for the two weeks from August 6 to 19 was three times as high as from July 2 to 15. In some of the large cities, particularly in the Rhine provinces. the difference was even greater. In Aix la Chapelle, Krefeld. Mülheim and Plauen from August 6 to 19 from five to seven times as many children died as from July 2 to 15. and in Düsseldorf and Hamborn from five to six times as many. In Hamborn and Chemnitz the infant mortality in the week from July 13 to 19 reached a height equivalent to an annual mortality of more than 100 per cent. The same was true of Leipsic in the week of August 6 to 13 and of Erfurt for the week of July 23 to 29. In the five weeks period from July 23 to August 26 the mortality was highest in Leipsic. being 88.5 per cent., Duisburg 81.8 per cent., Hamborn 80.7. Chemnitz 78.0. Erfurt 74.3. Aix la Chapelle 74.0. Cologne 73.2. and in Halle 71.3 per cent. In all these cities the babies were literally decimated in the short space of five weeks. The average mortality for the forty-eight larger cities was 45.2 per cent.. more than double that in July and August of last year. In many large cities the increase was considerably greater. A smaller rate was found only in Kiel and Königsberg. If the mortality in the large cities of Germany had been the same as in the previous year. as many as 9,000 children would have lived who fell victims to the murderous heat.

and fractured and lacerated the fingers of the hand.——Dr. Warner B. Strong, Health Commissioner of Waukesha, has resigned and will remove to St. Martins.——Dr. David W. Ashum, Eau Claire, who is ill at the Sacred Heart Hospital, is reported to be convalescing.

GENERAL NEWS

Leper Deported.—Acieto Paleby, a Philippino leper, who has been held in isolation in Washington for six months, was deported on the transport *Dixon* which sailed from Seattle for Manila, September 15.

District Association Meeting.—The fall meeting of the Iowa and Illinois Central District Medical Association will be held in the Harms Hotel, Rock Island, Ill., October 12, under the presidency of Dr. Herbert M. Decker, Davenport.

Army Medical School Opens.—The Army Medical School, Washington, opened for its regular term, October 2. Fifty-eight candidates for appointment for the medical corps, who have successfully passed the examination, reported for duty.

Health Experts' Conference.—The annual conference of the New York State Department of Health will be held in New York City, October 25. Health departments of adjoining states will be represented by delegates. E. J. Lederer, Health Commissioner of New York City, will speak on the "Activity of the Health Department."

Health Lectures in Canal Zone.—A series of health lectures is being given in Colon, under the auspices of the Cristobal Women's Club, and the success of the series has been so marked that it is probable that similar lectures will be given in the other American villages in the zone. The first lecture was on tuberculosis and was illustrated; the second was on the typhoid germ and the danger of the house fly.

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Since 1909 the management of the army has provided medical care for those belonging to the families of soldiers. Hospital treatment was given when deemed necessary by the army surgeon and the cost of board and nursing was charged to the empire. Furthermore specially educated medical officers are sent from other garrisons for special cases, operations, etc. While in the beginning these treatments were given only for life-saving operations it is now extended to a variety of cases in which hospital care is desirable. Provisions are also made for transporting the sick members of soldiers' families to sanatoria. The entire cost of the increased hospital treatment is estimated at $50,000 (200,000 marks) yearly, for which heretofore only 20,000 marks were appropriated.

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Vienna, Sept. 23, 1911.

Care of Tuberculous Patients in Vienna

It was only a few years ago that our authorities and organizations grappled with the problem of controlling tuberculosis; nevertheless, the results obtained so far are very promising. First of all, two public sanatoriums have been erected, but, although equipped in up-to-date manner, they are generally admitted to be sadly insufficient, a large number of such institutions being needed. The Krankenkassen have instituted a special tuberculosis service for their members, and the relative importance of this service may be judged from the fact that of a population of 2,000,000. the three principal Krankenkassen alone count fully 400,000 (20 per cent.) as their members, and altogether about 50 per cent. of the wage-earning population is under the influence of the Kassen and thus may profit by the system, which may be described as follows: The physician is required to report each case of tuberculosis, or what he thinks may be an incipient case, to a central board, which causes the patient to be examined by a specialist. If found to be tuberculous and capable of treatment the patient is submitted to a course of tuberculin injections by a competent tuberculosis specialist, or, as the case may be, is sent to a convalescent home or a private sanatorium. In the meantime, his conditions of living are investigated, note is made of his environment, etc., so that the course of the disease may be controlled. Valuable information is thus gathered as to the ultimate fate of such patients. Thus in the "Gremial" Krankenkasse, which has a membership of 33,000, about 600 cases are on the control list, while the total number of tuberculous members is estimated at 1,500. Another large body is the Krankenkasse of the trade-unions, which has a membership of 300,000, and to which in 1909, about 15,000 notifications of illness and 600,000 days lost on account of tuberculosis were reported. This organization contributes fully one-third of all fatal cases in Vienna among persons over 15 years of age. Some 7,000 patients who were on the sick list for other reasons proved to be tuberculous, and 22,000 members of this organization may be estimated as tuberculous. One feature of the gigantic mechanism required is the appointment of specialists to treat with tuberculin all patients who are still able to work. This is as yet a huge experiment, having been in force only since January, 1911, though some of the organizations have already reported very favorably on the procedure. A centralized control has also been adopted here.

BUDAPEST LETTER

(From an Occasional Correspondent)

Budapest, Sept. 6, 1911.

Pellagra in Hungary

A recent report of the public health service of Transylvania (the southeastern part of Hungary), announces the appearance of pellagra which is spreading rapidly. As generally held here, the disease is due to eating damaged maize, and the prevalence of it is not surprising in view of the fact that maize is the staple food of the peasantry in this part of Hungary. The maize is rendered unwholesome by the modern intensive method of cultivation, the grain being harvested while still unripe, with the result that putrefaction occurs. In parts of Italy, especially in Lombardy and Piedmont, and also in Roumania, pellagra is even more common than in Hungary. The government of Hungary has distributed wheat flour among the indigent inhabitants of southern Hungary. The disease itself is by no means severe, though some patients suffer from mental disturbance which does not yield readily to treatment. Many of the sick with pellagra recover when supplied with wholesome food.

The Relation of Alcoholism to Crime

At a meeting of the Society of Medical Practitioners held on September 2, Dr. Gerö, medical expert attached to the law courts, reported that he has had to examine ninety-four individuals charged with homicide or attempted homicide. In this number there were six malingerers and four persons who were wrongly supposed to be the subject of mental defects. Of the remaining eighty-four criminals seventy were males and only fourteen were females. With regard to their condition of health, the following conditions were noted: one case of pregnancy with mental derangement, one case of morphinomania, one case of hysteria, nine cases of delusions of persecution, seven cases of various states of mental disorder, eight cases of hysteria or epilepsy, thirteen cases of various diseases either supposed or known to have an effect on the brain, ten cases of mental defect, and thirty-four cases of alcoholism.

Dr. Gerö emphasized the fact that the cases of alcoholism thus formed more than one-third of the total number of persons charged with homicide. He added that the influence of alcohol as a contributory cause of homicide would be seen to be even greater if, instead of a mere enumeration of accused individuals personally addicted to alcohol, an examination were made of the antecedents under other headings. This would show that many epileptics and mental defectives were the children of alcoholic parents. Gerö went on to say that acts of extreme violence might be committed not only by habitual inebriates but also by persons in a state of occasional alcohol intoxication, in illustration of which he quoted two cases.

Marriages

Herbert Lentz Freeland, M.R.C., U. S. Army, to Miss Emma E. Pritchard of Los Angeles, Cal., at Manila, P. I., August 14.

George Plummer Howe, M.D., Lawrence, Mass., to Miss Marion Dudley Endicott of Boston, Mass., September 20.

George B. Scholl, M.D., Baltimore, to Miss Ethel Waterbury Jones, at Drexel Hill, Philadelphia, September 20.

Wilfrid Adelard Plourde, M.D., Overly, N. Dak., to Miss Blance Desilets of Grandes Piles, Canada, September 4.

Bert Chamberlain Kern, M.D., Mogollon, N. Mex., to Miss Eva Jackson of Colorado Springs, Colo., September 27.

Edwin Luther Stevens, M.D., Des Moines, Ia., to Miss Mabel Quam Hilbish of Sheridan, Ill., September 21.

Francis R. Blanchard, M.D., Lakeview, Mich., to Miss Lottie Castle of Richland, Mich., September 20.

Walter Bayard Huey, M.D., El Campo, Tex., to Miss Caroline Jerusha Burry of Chicago, September 27.

Charles G. Mixter, M.D., Boston, to Miss Helen Worthington McIntosh of Milwaukee, October 5.

Martin Russ Edwards, M.D., Shanghai, China, to Miss Ethel Hooper of Chicago, September 27.

Snyder R. Miller, M.D., Windsor Hills, Baltimore, to Miss Nell Miller of Pittsburgh, September 7.

Edwin Janas, M.D., Los Angeles, Cal., to Miss Florence Cluff of San Francisco, September 12.

Carl Richard Bassler, M.D., Elkhart, Ind., to Miss Edna Hollinger of Pittsburgh, September 6.

Harry Lorenzo James, M.D., Springfield, Ill., to Miss Mildred Falk of Chicago, January 14.

Arthur H. R. Krueger, M.D., to Miss Grace Wolter, both of Carpentersville, Ill., September 27.

Harold A. Hume, M.D., Owosso, Mich., to Miss Nina Beebe of Ovid, Mich., September 20.

Albert Brewer Landrum, M.D., to Miss Flora Esther Rohe, both of Columbus, O., June 12.

C. Ben Wiley, M.D., to Miss Lucille Johnson, both of Winkelman, Ariz., September 14.

Bert P. Cole, M.D., to Miss Rose M. Persinger, both of Kenney, Ill., September 8.

William Jason Mixter, M.D., to Miss Dorothy Fay, both of Boston, September 21.

Angus MacIver, M.D., Marysville, O., to Miss Gladys Jewell, of Peoria, September 21.

Walter L. Clay, M.D., to Miss Meta Henderson, both of Hannibal, Mo., recently.

Amzi S. Plummer, M.D., to Miss Bessie I. Pitney, both of Peoria, September 6.

Deaths

John Titus Hay, M.D., for many years superintendent of the Nebraska Hospital for the Insane, Lincoln, an alienist of distinction, and a gentle and unassuming man whose life was devoted to helping sufferers from mental disorders; died September 28, from arteriosclerosis, aged 62.

He was born at Schoharie, N. Y., Aug. 3, 1849, and secured his medical degree from the University of the City of New York in 1878. A year later he became first assistant physician at the State Insane Hospital, Lincoln, and served in that position for fourteen years. In 1893 he was appointed superintendent, but with the change of administration he was removed. He was again appointed assistant physician in the State Hospital by Governor Dietrich and again made superintendent by Governor Mickey and held this position through the administration of Governor Sheldon, being succeeded in 1909 by Dr. Woodward. Governor Aldrich, on assuming office in February, 1911, reappointed Dr. Hay superintendent of the institution.

In the interims Dr. Hay practiced medicine in Lincoln, specializing in nervous and mental diseases and acting as alienist for the Lancaster County Board of Examiners and as a member of the County Insanity Commission. He was a member of the American Medical Association and the state and county medical societies.

Henry Herbert Herbst, M.D. University of Pennsylvania, Philadelphia, 1881; a member of the American Medical Association; chairman of the medical section of the Medical Society of the State of Pennsylvania, and first vice-president of the society, and a member of the American Academy of Medicine; at one time coroner's physician; formerly mayor of Allentown, Pa., and for nine years president of the board of control; for several years a member of the board of health and school director in 1894; a pioneer in the medical inspection of public school children; died in the University of Pennsylvania Hospital, Philadelphia, September 20, from disease of the kidneys, aged 53.

James Curtis Hepburn, M.D. University of Pennsylvania, Philadelphia, 1836; for more than forty years a medical missionary in China, the Straits Settlements and Japan; who issued the first Japanese-English dictionary and assisted in the first translation of the Bible into Japanese, and for this and other work was given the insignia of the Imperial Order of the Rising Sun by the Emperor of Japan; died at his home in East Orange, N. J., September 21, from senile debility, aged 96.

Jefferson Dudley Poindexter, M.D. College of Physicians and Surgeons, Baltimore, 1886; a cadet at the United States Military Academy, West Point, N. Y., in 1883 and 1884; who entered the Medical Corps of the Army in 1887, and was made captain in 1892; was retired with the rank of major in 1901 on account of disability in line of duty, and since his retirement has been a resident of Danville, Va.; died at his home in that place, September 10, aged 45.

William Alexander Graham, M.D. University of Pennsylvania, Philadelphia, 1899; a member of the American Medical Association; medical director of Watts Hospital in Durham, N. C., in 1906; attending physician to Watts and Lincoln hospitals and city health officer; died at his home at Durham, September 19, from the effects of a gunshot wound in the head believed to have been self-inflicted with suicidal intent while despondent, aged 35.

Byron Caldwell Hendershott, M.D. Miami Medical College, Cincinnati, 1892; formerly a member of the American Medical Association; chief of staff of the Union Hospital, Canal Dover and New Philadelphia, O.; local surgeon of the Pennsylvania and Baltimore and Ohio systems; president of the local board of U. S. pension examining surgeons; died at his home in New Philadelphia, September 22, from cerebral hemorrhage, aged 43.

Samuel L. Cheaney (license, Illinois Army Board, 1862; Illinois State Board of Health, years of practice, 1880); a practitioner since 1858; assistant surgeon and later surgeon of the Twenty-Ninth Illinois Volunteer Infantry during the Civil War; for many years a leading practitioner of Harrisburg, Saline County, Ill., and state senator in 1878; died at the home of relatives at Henderson, Ky., August 27, aged 76.

William J. Stanford, M.D. University of Nashville (Tenn.), 1858; surgeon in the Confederate service throughout the Civil War; for twenty-two years a practitioner of Ben Wheeler, Tex.; died at the home of his son in Canton, June 11, aged 76.

Hiram Gettman DuBois, M.D. University of Buffalo, N. Y., 1866; a member of the American Medical Association; once president, twice vice-president and a permanent member of the Oneida County Medical Society; in 1881, 1893 and 1896 coroner of Oneida County; for many terms village trustee of Camden; died at his home, September 19, from cerebral hemorrhage, aged 74.

Reed B. Burnham, M.D., Starling Medical College, Columbus, O., 1894; a member of the American Medical Association, and National Association of U. S. Examining Surgeons; from 1895 to 1900 assistant surgeon at the Ohio State Soldiers' and Sailors' Home; died at his home in Piqua, O., recently, and was buried September 17, aged 44.

Edward Winslow Warren, M.D. Harvard Medical School, 1883; afterward district physician at the Boston dispensary; for three years a practitioner of Ansonia, Conn., and thereafter of Boston; especially interested in laryngologic and bacteriologic research; died at his home in Boston, June 28, from pneumonia, aged 55.

James H. Dickerson, M.D. Philadelphia University, 1870 (license, Illinois, years of practice, 1878); Missouri Medical College, St. Louis, 1899; a member of the American Medical Association; local surgeon of the Wabash system at Taylorville; died at his home in that city, September 15, from pneumonia, aged 64.

Edgar Lee Freiberger, M.D. Denver and Gross College of Medicine, Denver, 1906; a member of the Colorado State Medical Society; a specialist in diseases of the eye, ear, nose and throat, who recently erected the Alamosa Hospital; died in that institution, September 16, from sarcoma, aged 38.

Martin Lucius Fielder, M.D. Graffenburg Institute, Dadeville, Ala., 1859; an honorary member of the Medical Association of the State of Alabama; for several years superintendent of the Soldiers' Home, Mountain Creek; died suddenly at his home in Wetumpka, September 18, aged 76.

John J. Pickett, M.D. Curtiss Physio-Medical Institute, Marion, Ind., 1884; a member of the Nebraska State Medical Association; district surgeon of the Union Pacific system; died at his home in Broken Bow, September 13, from cerebral hemorrhage, aged 61.

John A. Vieregge, M.D. St. Paul (Minn.) Medical College; (license, Minnesota, examination, 1887) a member of the Ramsey County Medical Society; died at his home in St. Paul, September 17, from diabetes, aged 50.

J. C. M. Cunningham, M.D. Cooper Medical College, San Francisco, 1900; of San Francisco; surgeon on the steamer *San Juan;* died on that boat, July 28, from heat exhaustion, off the coast of Central America, aged 34.

William Henry Cope, M.D. Cooper Medical College, San Francisco, 1887; district surgeon for the Southern Pacific system; died at his home in Pleasanton, Cal., May 28, from chronic interstitial nephritis, aged 59.

Lawrence Sterling Alexander, M.D. University of Maryland, Baltimore, 1868; since 1880 a practitioner of St. Augustine, Fla.; died at his home in that city, Nov. 6, 1910, from heart disease, aged 68.

Samuel R. Berg, M.D. Iowa Medical College, Eclectic, Des Moines, 1889; formerly city physician of Independence, Mo., and later a resident of Holden, Mo.; died in Warrensburg, Mo., September 19.

William Lee Berry, M.D. Cooper Medical College, San Francisco, 1889; of Tonapah, Nev.; died in the Miners' Hospital in that city, September 21, from hemorrhage of the stomach, aged 46.

Albert E. Gundry, M.D. Kansas Medical College, Topeka, 1894; of Junction City, Kansas; died in Christ's Hospital, Topeka, September 14, from carcinoma of the stomach, aged 45.

Daniel Franklin Coolidge, M.D. Bellevue Hospital Medical College, 1867; a veteran of the Civil War; died at his home in Ludlow, Vt., September 17, from disease of the brain, aged 71.

William Lorenzo Goodale, M.D. University of Vermont, Burlington, 1888; of Montpelier; died at the Heaton Hospital in that city, September 17, from nephritis, aged 45.

Harriet A. Anderson, M.D. Northwestern University Woman's Medical School, Chicago, 1882; died at her home at Mount Horeb, Wis., September 17, aged 72.

Edwin J. Atkinson (license, Missouri, 1883); a practitioner since 1856; died at his home in Nevada, September 17, from cerebral hemorrhage, aged 81.

George Washington Gaddy (license, Arkansas, 1903), died at his home in Fourche, Dec. 5, 1910, from pneumonia, aged 70.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession.

THE INTERSTATE REMEDY COMPANY*

A Mail-Order Medical Fake and Its "Free Recipe" Bait

Readers of the less particular newspapers and magazines are doubtless familiar with an advertisement which is headed in bold type: "$3.50 Recipe Cures Weak Men—Free" (Fig. 1). This "free prescription" will be sent, so the advertisement says, by a "Dr." or, as it has sometimes appeared, "Mr." A. E. Robinson, Luck Building, Detroit, Mich. Investigation seems to show that A. E. Robinson is the style adopted by one Andrew Robinson, who some years ago was connected with a fraudulent mail-order "men's specialist" concern in Indiana known as the business in 1904 by the government "for operating through the mails a scheme or device for obtaining money or other property by means of false or fraudulent pretenses, representations or promises." Not only did the Dr. Knapp Medical Company operate a fraud, but it published such filthy newspaper advertisements that some of them were declared to violate the obscenity law.

THE
BAPTIST RECORD.

"Dr. A. E. Robinson," then, is the Interstate Remedy Company and the Interstate Remedy Company is Messrs. Hayes, Bourke and Coon. These three men are, we understand, also the officers and stockholders of another "patent medicine" fake, the Marmola Company. Marmola is an "obesity cure" which has been advertised both by the "fake prescription" method and also direct. According to various analyses, Marmola depends for its action on the presence of thyroid extract, a powerful and, in the hands of the public, a dangerous drug.

The "$3.50 recipe," which Robinson advertises that he will send free, is said to be for "nervous debility, lack of vigor, weakened manhood, failing memory and lame back, brought on by excesses, unnatural drains or the follies of youth . . ." The close resemblance of this advertisement to the dirty sheets put out by the "men's specialist" quacks is apparent. Those who answer the advertisement and ask for the free "recipe" are sent a form-letter which is filled in, here and there, to give it the verisimilitude of a personal communication; they are also sent a booklet entitled "Rational Treatment of Kidney and Bladder Diseases."

cial advantage should have modified the humbug so as to apply it to another branch of their medical frauds.

THE C. O. D. HUMBUG

To go back to the form-letter: No matter what excuse the prospective victim may have given for writing, he is told that his letter "indicates that you need the actual medicines at once also the best medical advice while you are using them." To meet this trumped-up indication, the letter goes on to state:

> "For this reason and in order that there may be no loss of time, also that it may be just as handy for you to get the remedies of this big, old-established company as of your druggist, I have shipped you to-day one full and complete treatment as per the prescription enclosed by Pacific Express, C. O. D. $3.50, which by the time this letter reaches you should be in your express office. I have prepaid the express charges, also the charges for the return of the money to us, so that all you are to pay is $3.50 only for the package."

In some cases, the Interstate Remedy Company sends its package of pills by mail instead of by express. If, in such instances, the recipient of the pills does not send the $3.50, he receives a long series of follow-up letters urging him to remit. Each letter is more insistent than its predecessor until at last one arrives that purports to come from the firm's attorneys and threatens legal reprisal. If the money is still not forthcoming, another "lawyer letter" comes offering to take one-half the amount of the bill!

If, on the other hand, the patient is foolish enough to send $3.50, about a week later he receives another letter—printed so as to indicate a personal typewritten communication—telling him that a month's treatment is on the way and will be delivered by the express company on the payment of $6.00. Of course, "$6.00 is a special price for a month's treatment, being one dollar less than two fifteen-day treatments would cost if sent separately."

BLACKGUARDING THE DRUGGIST

Like most mail-order quacks, the Interstate Remedy Company does not like the druggist any more than it loves the physician. While the Detroit concern states in its booklet that Urikol and Kydnus may be obtained from any druggist on special order, yet it would prefer "that you obtain them from us direct, for several reasons." One of the reasons is that "the medicine should be in tablet form" and, of course, the druggist does not know how to make tablets! Another reason is that "there are a number of ingredients in each of Formulas 1 and 2 and unless they are thoroughly mixed together the synergizing effect is lost." This "synergizing" humbug will sound familiar to physicians who remember the great stress that the purveyors of so-called ethical proprietaries used to lay on this same point a year or two ago in exploiting their wares. "Synergizing" has long been such a favorite piece of clap-trap among the nostrum fraternity that it is entirely fitting that the Interstate Remedy Company should bring it into use.

But the vital reason that you should order Urikol and Kydnus from Messrs. Hayes, Bourke and Coon, *alias* A. E. Robinson, is that "a great many unscrupulous druggists try to deceive their customers into taking something they do not want, and which may be a positive damage to you rather than a benefit." So the patient is warned that if he orders his Interstate Remedy "dope" through his local druggist he should insist on the druggist giving him the empty packages in which Kydnus and Urikol came!

WHAT ARE URIKOL AND KYDNUS?

To determine the composition of the prescription fakes in Formulas 1 and 2, that is, Urikol and Kydnus, it was decided to obtain specimens of these products direct from the Interstate Remedy Company. Accordingly, a Chicago druggist was asked to write direct to the Interstate Remedy Company for an original package of Urikol and an original package of Kydnus. This was done, but the Detroit concern, instead of sending what was ordered, tried to do what it has charged druggists with doing, substitute, and sent one of its packages of pills similar to the regular $3.50 C. O. D. "treatment." This the druggist returned and insisted that he wanted half-ounce packages of Urikol and Kydnus, respectively. These finally came and were turned over to the American Medical Association laboratory for investigation. The Association's chemists reported as follows:

LABORATORY REPORT

Urikol.—The powder in the box labeled "Urikol" is greenish yellow in color and possesses an odor in which, among others, that of buchu is most prominent. Quantitative analysis yielded the following results:

Water-soluble matter	37.93	per cent.
Alcohol-soluble matter	0.55	per cent.
Chloroform-soluble matter	3.67	per cent.
Insoluble matter	52.96	per cent.
Moisture	5.20	per cent.
Undetermined	0.69	per cent.
	100.00	

The portion soluble in water contains what appears to be sugar and some drug extracts, the most prominent appearing to be buchu. The alcohol-soluble part has in general the same properties as the water-soluble portion. The substance soluble in chloroform was identified as hexamethylenamin. The portion insoluble in the above solvents consists approximately of equal parts of starch and calcium carbonate. The remainder of the powder is chiefly moisture. The presence of alkaloids, arsenic or metals could not be demonstrated.

From these results it appears that the powder called Urikol is essentially a small quantity of hexamethylenamin and some drug extracts in a mixture of starch, sugar and calcium carbonate.

Kydnus.—The powder in the box labeled "Kydnus" is light brown in color, possessing a taste and a slight odor of hydrogen sulphid. Quantitative analysis yielded the following:

Water-soluble matter	38.75	per cent.
Dilute acid-soluble matter	27.20	per cent.
Concentrated acid-soluble matter	2.94	per cent.
Insoluble matter	28.08	per cent.
Moisture	2.80	per cent.
Undetermined	0.23	per cent.
	100.00	

The portion soluble in water consists of about 32 per cent. sugar and the rest potassium and calcium sulphates. The acid-soluble part consists of about 27 per cent. calcium carbonate and about 0.2 per cent. calcium sulphid. The portion soluble in concentrated acid consists of iron equivalent to about 3 per cent. ferric oxid. The residue insoluble in the above solvents is practically entirely starch. The remainder of the powder is chiefly moisture.

From these results it is concluded that Kydnus is essentially a mixture of calcium carbonate, starch and sugar containing a small quantity of calcium sulphid and iron.

As usual, of course, it is found that the nostrums used by these quacks are drugs that are in common use by regular physicians. It is the same old story: Well-known drugs enveloped in a cloud of secrecy and mystery, endowed with properties they do not possess and sold at a price enormously in excess of their worth.

"WEAK WOMEN" ALSO

Nor do these quacks confine themselves conclusively to the "recipe for men" fraud. They have, as a sideline, the "Interstate Woman Medicine," by which they are able to humbug suffering women. In their booklet "How Women Cure Themselves at Home" they repeat almost verbatim some of the matter that appears in the other booklet issued to "weak men." To quote:

URIKOL AND KYDNUS	WOMAN MEDICINE
"When a man is young he makes body poisons by the philter full, but the vigor of his tissues casts them forth."	"When a woman is young she makes body poisons by the philter full, but the vigor of her tissues casts them forth."
"The body suffers in brain and muscle and nerve; to greater extent than the liver; most disastrously of all in the kidney."	"The body suffers in brain and muscle and nerve; to greater extent in the liver; most disastrously of all in the kidney, bladder and organs of generation."
"In short, with advancing age a man must seek kidney help. It must be fortified. Its tasks overmaster its strength. Its outcry is feebleness."	"In short, with advancing age a woman must seek help for the vital organs. These are her weak spots. They must be fortified. Their tasks overmaster their strength. Their outcry is feebleness."

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION.

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EDWARD D. HAYES, President.
WILLIAM H. BOURKE, Vice-President.
HENRY F. COON, Secretary and Treasurer.

ITS UNSAVORY PAST

The Interstate Remedy Company is a successor to the Dr. Knapp Medical Company and the Dr. Raynor Medical Company. The Knapp and Raynor medical companies of Detroit were two names for the same concern, which was put out of business in 1904 by the government "for operating through the mails a scheme or device for obtaining money or other property by means of false or fraudulent pretenses, representations or promises." Not only did the Dr. Knapp Medical Company operate a fraud, but it published such filthy newspaper advertisements that some of them were declared to violate the obscenity law.

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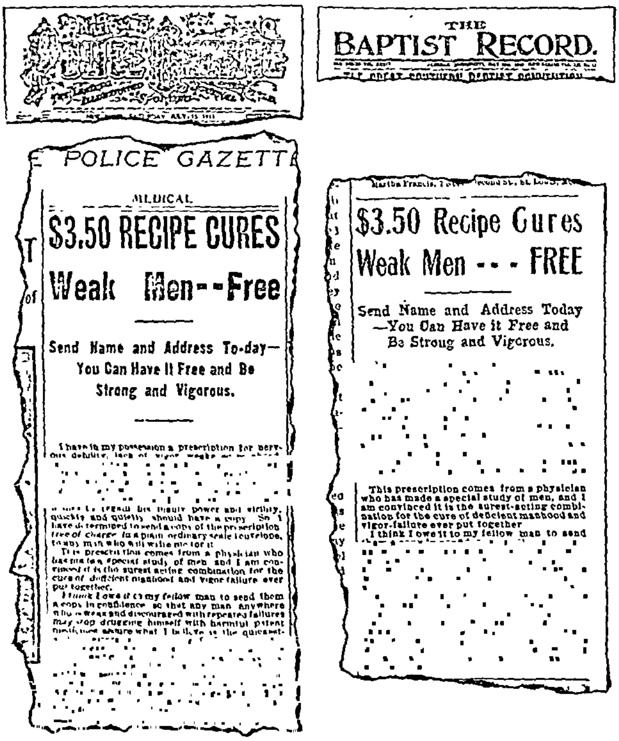


THE BAPTIST RECORD.

POLICE GAZETTE

MEDICAL

$3.50 RECIPE CURES Weak Men--Free

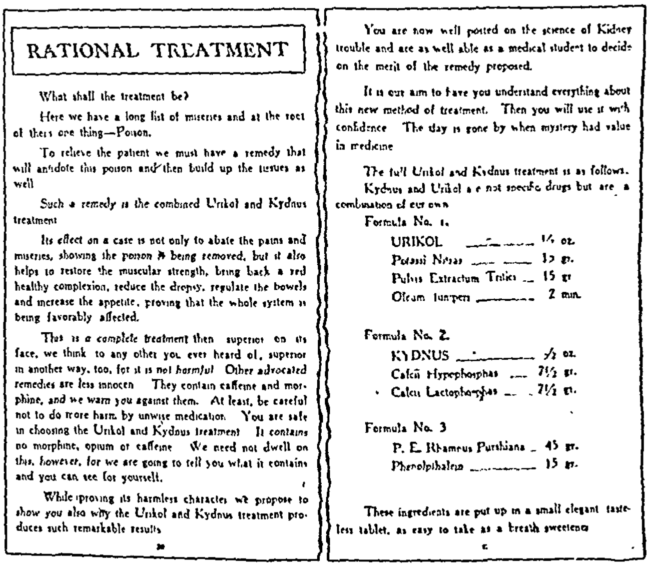
Send Name and Address To-day—You Can Have It Free and Be Strong and Vigorous.

$3.50 Recipe Cures Weak Men - - - FREE

Send Name and Address Today —You Can Have it Free and Be Strong and Vigorous.

This prescription comes from a physician who has made a special study of men, and I am convinced it is the surest-acting combination for the cure of deficient manhood and vigor-failure ever put together.
I think I owe it to my fellow man to send

Fig. 1.—Photographic reproductions (reduced) of the stock advertisement sent out by the Interstate Remedy Company under the name of A. E. Robinson. One of these "lost manhood" advertisements appeared in the *Police Gazette*, the other in the *Baptist Record*. One would expect to find this type of advertising in a sheet like the *Police Gazette*, but in a religious weekly it seems disgustingly incongruous.



RATIONAL TREATMENT

What shall the treatment be?

Here we have a long list of miseries and at the root of them one thing—Poison.

To relieve the patient we must have a remedy that will antidote this poison and then build up the tissues as well

Such a remedy is the combined Urikol and Kydnus treatment

Its effect on a case is not only to abate the pains and miseries, showing the poison is being removed, but it also helps to restore the muscular strength, bring back a red healthy complexion, reduce the dropsy, regulate the bowels and increase the appetite, proving that the whole system is being favorably affected.

This is *a complete treatment* then superior on its face, we think to any other you ever heard of, superior in another way, too, for it is not *harmful* Other advocated remedies are less innocent They contain caffeine and morphine, and we warn you against them. At least, be careful not to do more harm by unwise medication You are safe in choosing the Urikol and Kydnus treatment *It contains* no morphine, opium or caffeine We need not dwell on this, *however, for we are going to tell you what it contains* and you can see for yourself.

While proving its harmless character we propose to *show you* also why the Urikol and Kydnus treatment produces such remarkable results

You are now well posted on the science of Kidney trouble and are as well able as a medical student to decide on the merit of the remedy proposed.

It is our aim to have you understand everything about this new method of treatment. Then you will use it with confidence The day is gone by when mystery had value in medicine

The full Urikol and Kydnus treatment is as follows.
Kydnus and Urikol are not specific drugs but are a combination of our own

Formula No. 1.
URIKOL ———— 1½ oz.
Potassi Nitras ———— 15 gr.
Pulvis Extractum Tritici ——— 15 gr.
Oleum Juniperi ———— 2 min.

Formula No. 2.
KYDNUS ———— ½ oz.
Calcii Hypophosphas ——— 7½ gr.
Calcii Lactophosphas ——— 7½ gr.

Formula No. 3
P. E. Rhamnus Purshiana — 45 gr.
Phenolphthalein ———— 15 gr.

These ingredients are put up in a small elegant tasteless tablet, as easy to take as a breath sweetener

Fig. 2.—Photographic reproduction (reduced) of two pages of the book sent in answer to the request for the free "$3.50 recipe." The "free recipe" is shown on the right-hand page and consists of three formulas, two of which contain "patent medicines"—Urikol and Kydnus—which can be obtained only from the Interstate Remedy Company. In other words, the offer of a "free recipe" is a mere catch-penny cheat.

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THE C. O. D. HUMBUG

To go back to the form-letter: No matter what excuse the prospective victim may have given for writing, he is told that his letter "indicates that you need the actual medicines at once, also the best medical advice while you are using them." To meet this trumped-up indication, the letter goes on to state:

> "For this reason and in order that there may be no loss of time, also that it may be just as handy for you to get the remedies of this big, old-established company as of your druggist, I have shipped you to-day one full and complete treatment as per the prescription enclosed by Pacific Express, C. O. D. $3.50, which by the time this letter reaches you should be in your express office. I have prepaid the express charges, also the charges for the return of the money to us, so that all you are to pay is $3.50 only for the package."

In some cases, the Interstate Remedy Company sends its package of pills by mail instead of by express. If, in such instances, the recipient of the pills does not send the $3.50, he receives a long series of follow-up letters urging him to remit. Each letter is more insistent than its predecessor until at last one arrives that purports to come from the firm's attorneys and threatens legal reprisal. If the money is still not forthcoming, another "lawyer letter" comes offering to take one-half the amount of the bill!

If, on the other hand, the patient is foolish enough to send $3.50, about a week later he receives another letter—printed so as to indicate a personal typewritten communication—telling him that a month's treatment is on the way and will be delivered by the express company on the payment of $6.00. Of course, "$6.00 is a special price for a month's treatment, being one dollar less than two fifteen-day treatments would cost if sent separately."

BLACKGUARDING THE DRUGGIST

Like most mail-order quacks, the Interstate Remedy Company does not like the druggist any more than it loves the physician. While the Detroit concern states in its booklet that Urikol and Kydnus may be obtained from any druggist on special order, yet it would prefer "that you obtain them from us direct, for several reasons." One of the reasons is that "the medicine should be in tablet form" and, of course, the druggist does not know how to make tablets! Another reason is that "there are a number of ingredients in each of Formulas 1 and 2 and unless they are thoroughly mixed together the synergizing effect is lost." This "synergizing" humbug will sound familiar to physicians who remember the great stress that the purveyors of so-called ethical proprietaries used to lay on this same point a year or two ago in exploiting their wares. "Synergizing" has long been such a favorite piece of clap-trap among the nostrum fraternity that it is entirely fitting that the Interstate Remedy Company should bring it into use.

But the vital reason that you should order Urikol and Kydnus from Messrs. Hayes, Bourke and Coon, *alias* A. E. Robinson, is that "a great many unscrupulous druggists try to deceive their customers into taking something they do not want, and which may be a positive damage to you rather than a benefit." So the patient is warned that if he orders his Interstate Remedy "dope" through his local druggist he should insist on the druggist giving him the empty packages in which Kydnus and Urikol came!

WHAT ARE URIKOL AND KYDNUS?

To determine the composition of the prescription fakes in Formulas 1 and 2, that is, Urikol and Kydnus, it was decided to obtain specimens of these products direct from the Interstate Remedy Company. Accordingly, a Chicago druggist was asked to write direct to the Interstate Remedy Company for an original package of Urikol and an original package of Kydnus. This was done, but the Detroit concern, instead of sending what was ordered, tried to do what it has charged druggists with doing, substitute, and sent one of its packages of pills similar to the regular $3.50 C. O. D. "treatment." This the druggist returned and insisted that he wanted half-ounce packages of Urikol and Kydnus, respectively. These finally came and were turned over to the American Medical Association laboratory for investigation. The Association's chemists reported as follows:

LABORATORY REPORT

Urikol.—The powder in the box labeled "Urikol" is greenish yellow in color and possesses an odor in which, among others, that of buchu is most prominent. Quantitative analysis yielded the following results:

Water-soluble matter	37.93	per cent.
Alcohol-soluble matter	0.55	per cent.
Chloroform-soluble matter	3.67	per cent.
Insoluble matter	52.96	per cent.
Moisture	5.20	per cent.
Undetermined	0.69	per cent.
	100.00	

The portion soluble in water contains what appears to be sugar and some drug extracts, the most prominent appearing to be buchu. The alcohol-soluble part has in general the same properties as the water-soluble portion. The substance soluble in chloroform was identified as hexamethylenamin. The portion insoluble in the above solvents consists approximately of equal parts of starch and calcium carbonate. The remainder of the powder is chiefly moisture. The presence of alkaloids, arsenic or metals could not be demonstrated.

From these results it appears that the powder called Urikol is essentially a small quantity of hexamethylenamin and some drug extracts in a mixture of starch, sugar and calcium carbonate.

Kydnus.—The powder in the box labeled "Kydnus" is light brown in color, possessing a taste and a slight odor of hydrogen sulphid. Quantitative analysis yielded the following:

Water-soluble matter	38.75	per cent.
Dilute acid-soluble matter	27.20	per cent.
Concentrated acid-soluble matter	2.94	per cent.
Insoluble matter	28.08	per cent.
Moisture	2.80	per cent.
Undetermined	0.23	per cent.
	100.00	

The portion soluble in water consists of about 32 per cent. sugar and the rest potassium and calcium sulphates. The acid-soluble part consists of about 27 per cent. calcium carbonate and about 0.2 per cent. calcium sulphid. The portion soluble in concentrated acid consists of iron equivalent to about 3 per cent. ferric oxid. The residue insoluble in the above solvents is practically entirely starch. The remainder of the powder is chiefly moisture.

From these results it is concluded that Kydnus is essentially a mixture of calcium carbonate, starch and sugar containing a small quantity of calcium sulphid and iron.

As usual, of course, it is found that the nostrums used by these quacks are drugs that are in common use by regular physicians. It is the same old story: Well-known drugs enveloped in a cloud of secrecy and mystery, endowed with properties they do not possess and sold at a price enormously in excess of their worth.

"WEAK WOMEN" ALSO

Nor do these quacks confine themselves conclusively to the "recipe for men" fraud. They have, as a sideline, the "Interstate Woman Medicine," by which they are able to humbug suffering women. In their booklet "How Women Cure Themselves at Home" they repeat almost verbatim some of the matter that appears in the other booklet issued to "weak men." To quote:

URIKOL AND KYDNUS	WOMAN MEDICINE
"When a man is young he makes body poisons by the philter full, but the vigor of his tissues casts them forth."	"When a woman is young she makes body poisons by the philter full, but the vigor of her tissues casts them forth."
"The body suffers in brain and muscle and nerve; to greater extent than the liver; most disastrously of all in the kidney."	"The body suffers in brain and muscle and nerve; to greater extent in the liver; most disastrously of all in the kidney, bladder and organs of generation."
"In short, with advancing age a man must seek kidney help. It must be fortified. Its tasks overmaster its strength. Its outcry is feebleness."	"In short, with advancing age a woman must seek help for the vital organs. These are her weak spots. They must be fortified. Their tasks overmaster their strength. Their outcry is feebleness."

The Propaganda for Reform

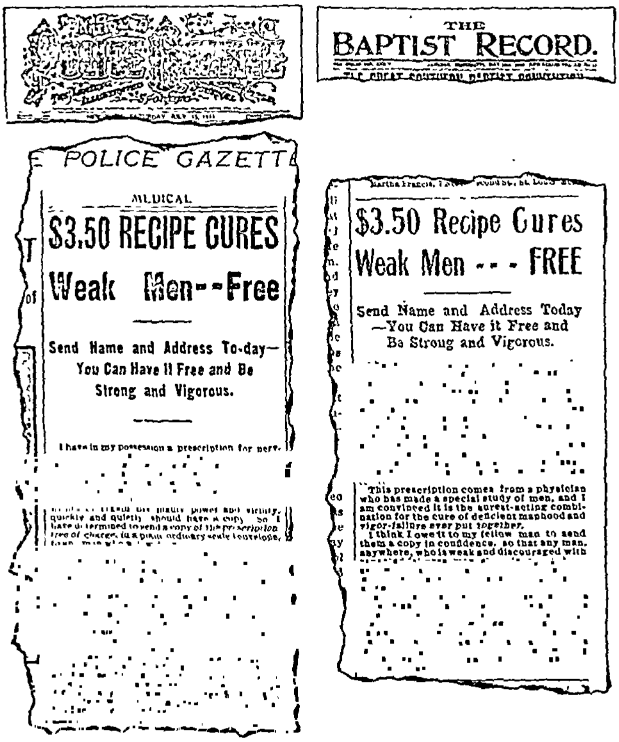
In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession.

THE INTERSTATE REMEDY COMPANY*

A Mail-Order Medical Fake and Its "Free Recipe" Bait

Readers of the less particular newspapers and magazines are doubtless familiar with an advertisement which is headed in bold type: "$3.50 Recipe Cures Weak Men—Free" (Fig. 1). This "free prescription" will be sent, so the advertisement says, by a "Dr." or, as it has sometimes appeared, "Mr." A. E. Robinson, Luck Building, Detroit, Mich. Investigation seems to show that A. E. Robinson is the style adopted by one Andrew Robinson, who some years ago was connected with a fraudulent mail-order "men's specialist" concern in Indiana known as the "State Medical Institute." Afterward he secured a license to practice in Illinois and in 1904 he registered, by reciprocity, in Michigan. Here he has been employed to act as the stool-pigeon for a mail-order medical concern—the Interstate Remedy Company. This company, advertising under Robinson's name, is incorporated and has the following officers and directors:

Edward D. Hayes, President.
William H. Bourke, Vice-President.
Henry F. Coon, Secretary and Treasurer.


THE BAPTIST RECORD.

POLICE GAZETTE

MEDICAL

$3.50 RECIPE CURES Weak Men--Free

Send Name and Address To-day—You Can Have It Free and Be Strong and Vigorous.

I have in my possession a prescription for nerv-

quickly and quietly should have a copy. So I have determined to send a copy of the prescription free of charge, in a plain ordinary sealed envelope,

$3.50 Recipe Cures Weak Men - - - FREE

Send Name and Address Today—You Can Have it Free and Be Strong and Vigorous.

"This prescription comes from a physician who has made a special study of men, and I am convinced it is the surest-acting combination for the cure of deficient manhood and vigor-failure ever put together.

I think I owe it to my fellow man to send them a copy in confidence, so that any man, anywhere, who is weak and discouraged with

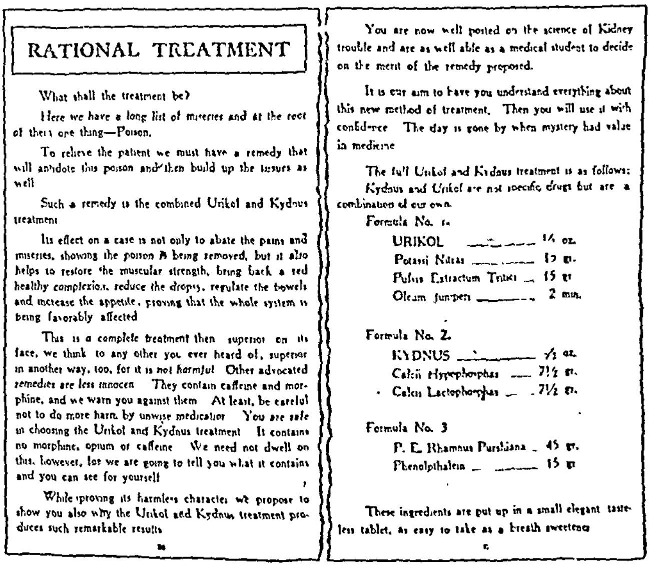
Fig. 1.—Photographic reproductions (reduced) of the stock advertisement sent out by the Interstate Remedy Company under the name of A. E. Robinson. One of these "lost manhood" advertisements appeared in the *Police Gazette*, the other in the *Baptist Record*. One would expect to find this type of advertising in a sheet like the *Police Gazette*, but in a religious weekly it seems disgustingly incongruous.

ITS UNSAVORY PAST

The Interstate Remedy Company is a successor to the Dr. Knapp Medical Company and the Dr. Raynor Medical Company. The Knapp and Raynor medical companies of Detroit were two names for the same concern, which was put out of business in 1904 by the government "for operating through the mails a scheme or device for obtaining money or other property by means of false or fraudulent pretenses, representations or promises." Not only did the Dr. Knapp Medical Company operate a fraud, but it published such filthy newspaper advertisements that some of them were declared to violate the obscenity law.

"Dr. A. E. Robinson," then, is the Interstate Remedy Company and the Interstate Remedy Company is Messrs. Hayes, Bourke and Coon. These three men are, we understand, also the officers and stockholders of another "patent medicine" fake, the Marmola Company. Marmola is an "obesity cure" which has been advertised both by the "fake prescription" method and also direct. According to various analyses, Marmola depends for its action on the presence of thyroid extract, a powerful and, in the hands of the public, a dangerous drug.

The "$3.50 recipe," which Robinson advertises that he will send free, is said to be for "nervous debility, lack of vigor, weakened manhood, failing memory and lame back, brought on by excesses, unnatural drains or the follies of youth . . ." The close resemblance of this advertisement to the dirty sheets put out by the "men's specialist" quacks is apparent. Those who answer the advertisement and ask for the free "recipe" are sent a form-letter which is filled in, here and there, to give it the verisimilitude of a personal communication; they are also sent a booklet entitled "Rational Treatment of Kidney and Bladder Diseases."


RATIONAL TREATMENT

What shall the treatment be?

Here we have a long list of miseries and at the root of them one thing—Poison.

To relieve the patient we must have a remedy that will antidote this poison and then build up the tissues as well

Such a remedy is the combined Urikol and Kydnus treatment

Its effect on a case is not only to abate the pains and miseries, showing the poison is being removed, but it also helps to restore the muscular strength, bring back a red healthy complexion, reduce the dropsy, regulate the bowels and increase the appetite, proving that the whole system is being favorably affected

This is a *complete treatment* then superior on its face, we think to any other you ever heard of, superior in another way, too, for it is *not harmful* Other advocated *remedies are less innocen* They contain caffeine and morphine, and we warn you against them At least, be careful not to do more harm by unwise medication You are safe in choosing the Urikol and Kydnus treatment It contains no morphine, opium or caffeine We need not dwell on this, however, for we are going to tell you what it contains and you can see for yourself

While proving its harmless character we propose to show you also why the Urikol and Kydnus treatment produces such remarkable results

36

You are now well posted on the science of Kidney trouble and are as well able as a medical student to decide on the merit of the remedy proposed.

It is our aim to have you understand everything about this new method of treatment. Then you will use it with confidence The day is gone by when mystery had value in medicine

The full Urikol and Kydnus treatment is as follows: Kydnus and Urikol are not specific drugs but are a combination of our own.

Formula No. 1.
URIKOL ______ 1½ oz.
Potassi Nitras ______ 12 gr.
Pulvis Extractum Tritici ______ 15 gr
Oleum Juniperi ______ 2 min.

Formula No. 2.
KYDNUS ______ ½ oz.
Calcii Hypophosphas ______ 7½ gr.
Calcii Lactophosphas ______ 7½ gr.

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"The body suffers in brain and muscle and nerve; *to greater* extent than the liver; most disastrously of all in the kidney."	"The body suffers in brain and muscle and nerve; to greater extent in the liver; *most* disastrously of all in the kidney, bladder and organs of generation."
"In short, with advancing age a man must seek kidney help. It must be fortified. Its tasks overmaster its strength. Its outcry is feebleness."	"In short, with advancing age a woman must seek help *for* the vital organs. These are her weak spots. They must be fortified. Their tasks overmaster their strength. Their outcry is feebleness."

"What even pretty well people should have, we think, is kidney help. The waning power of the body to get rid of its own poisons makes intelligent assistance imperative."	"What even pretty well women should have, we think, is help for weakness. The waning power of the body to get rid of its own poisons makes intelligent assistance imperative."
"It is a duty you owe yourself to take heed of your kidney's health. You have no excuse for neglect. There is little chance for escape in our opinion."	"It is a duty you owe yourself to take heed of your health. You have no excuse for neglect. There is little chance for escape in our opinion."
"Therefore, use the Urikol and Kydnus treatment—it has every recommendation: simple, safe and quick acting, and consequently inexpensive."	"Therefore, use the 'Woman Medicine' treatment — it has every recommendation: simple, safe, quick acting and consequently inexpensive."

All of which means that the Interstate Remedy Company exists not for its pretended purpose of furnishing professional advice and treatment to the ill, but to capitalize sickness and wring dividends from distress.

MAIL-ORDER FAKES

Founded on falsehood, maintained by deceit, dependent on ignorance—mail-order medical fakers are concerned only with the commercializing of suffering. In place of the knowledge of the family physician, they offer only an ignorance that is as dense as it is dangerous; for the kindly personal interest of the home doctor, they substitute a set of "form letters"; instead of the confidential and private consideration of the patient's infirmities, the mail-order quacks give them all the publicity of a large corps of mailing clerks and finally sell the patients' letters to others in the same business; in place of an individualized treatment, they prescribe stock pills and tablets of the cheapest and least reliable kind—instead, in fact, of treating the patient as a suffering, human entity, the victim of sickness is a mere customer in whom the quack is interested only to the extent of the length of his purse or the ease with which he may be swindled.

Correspondence

The Tabulation of Cases of Tuberculosis After Treatment in Sanatoriums or Dispensaries—Follow-Up Work

To the Editor:—In THE JOURNAL, Sept. 2, 1911, occurred a thoughtful article by Dr. Lawrason Brown, of Saranac Lake, concerning "Sanatorium and Dispensary Treatment of Tuberculosis."

In the course of this article the following statement appears:

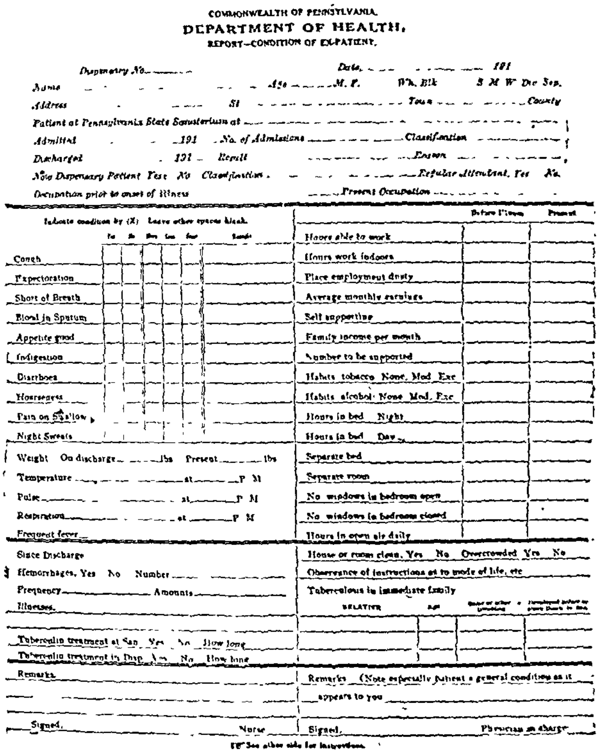
> A number of dispensaries in America have published reports of the immediate results of treatment, but such figures carry far less weight than the percentage of living, dead and untraced among a number of carefully classified patients. There is no doubt great difficulty in following these patients either to their death or to recovery at the end of five years, but with the excellent facilities at the disposal of many modern dispensaries, such for instance as the visiting nurses, the various relief associations and the hearty cooperation of the boards of health, such work should present no insurmountable difficulties . . . It will be of great value to compare results obtained in the dispensaries before and after the introduction of this method. Many patients from the dispensaries are sent to the sanatoriums. On return they should report to the dispensary. These patients should be studied separately and the problem of the best treatment of tuberculosis might then be solved.

It was with precisely this view that, during the summer of 1909, I appointed two physicians to visit the 115 tuberculosis dispensaries of the State Department of Health of Pennsylvania for the purpose of gathering and tabulating statistics concerning the individual tuberculous patients. It will be borne in mind that the department was not established until 1905 and the appropriation enabling the department to undertake a campaign for the control of tuberculosis was not made until 1907. The dispensary system was inaugurated at the close of that year, but it was not until the middle of the year 1908 that it was perfected.

It will be observed that the only means of admission into state sanatoriums is through a dispensary, the certificate of the dispensary physician being essential.

The examination of the patient on making application at the dispensary is thorough, including family history, environment, previous condition of health, present illness and physical examination, and a nurse's report which goes fully into the sociologic conditions of the family. The certificate of the dispensary physician for admission to a sanatorium contains an expression of opinion as to the stage of the disease, whether incipient, advanced or far advanced. On admission to the sanatorium a careful examination is again made which is repeated at frequent intervals. On the discharge of the patient, the dispensary from which he was accredited to the sanatorium is at once notified and takes up further supervision of the treatment. It becomes the duty of the dispensary nurse, however, if the patient does not again resume attendance on the dispensary, to inspect the patient at his home in March and September of each year and report his condition to the medical director of the sanatorium from which he was discharged. This report indicates the condition of the patient's health in detail, comparative weight and capacity for work, with character of occupation. Thus the basis is laid for following up every case discharged from one of our state sanatoriums for an indefinite number of years. The first of these reports reached the sanatorium at Mont Alto in April, 1911, and the statistics are now being compiled. A similar scheme for the dispensaries has not yet been formulated but is in contemplation.

The reader will note that with the state's sanatoriums and the dispensaries all under the centralized governmental control of the department of health, a scheme of organization is at once available for following up each individual patient until we know how many patients with incipient tuberculosis remain well, how many patients in whom the disease is arrested remain quiescent or go on to cure and how many cured



COMMONWEALTH OF PENNSYLVANIA.
DEPARTMENT OF HEALTH.
REPORT—CONDITION OF EX-PATIENT.

Dispensary No. ______ *Date,* ______ *191*
Name ______ *Age* ______ *M. F.* *Wh. Blk* *S M W Div Sep.*
Address ______ *St* ______ *Town* ______ *County*
Patient at Pennsylvania State Sanatorium at ______
Admitted ______ *191* *No. of Admissions* ______ *Classification* ______
Discharged ______ *191* *Result* ______ *Reason* ______
Now Dispensary Patient Yes No Classification ______ *Regular Attendant, Yes No.*
Occupation prior to onset of illness ______ *Present Occupation* ______

Indicate condition by (X) Leave other spaces blank.

Cough
Expectoration
Short of Breath
Blood in Sputum
Appetite good
Indigestion
Diarrhoea
Hoarseness
Pain on Swallow
Night Sweats
Weight On discharge ______ lbs Present ______ lbs
Temperature ______ at ______ P M
Pulse ______ at ______ P M
Respiration ______ at ______ P M
Frequent fever ______

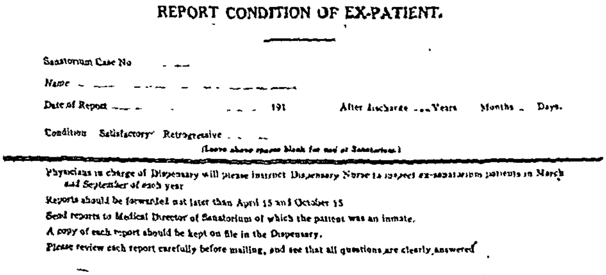
Before Illness — Present

Hours able to work
Hours work indoors
Place employment dusty
Average monthly earnings
Self supporting
Family income per month
Number to be supported
Habits tobacco None, Mod Exc
Habits alcohol None Mod. Exc
Hours in bed Night
Hours in bed Day
Separate bed
Separate room
No windows in bedroom open
No windows in bedroom closed
Hours in open air daily

Since Discharge
Hemorrhages, Yes No Number ______
Frequency ______ Amounts ______
Illnesses ______
Tuberculin treatment at San Yes No How long
Tuberculin treatment in Disp Yes No How long
Remarks ______
Signed, ______ Nurse

House or room clean, Yes No Overcrowded Yes No
Observance of instructions as to mode of life, etc
Tuberculous in immediate family
RELATIVE Age
Remarks (Note especially patient's general condition as it appears to you ______
Signed, ______ Physician in charge

☞ See other side for instructions.



REPORT CONDITION OF EX-PATIENT.

Sanatorium Case No ______
Name ______
Date of Report ______ 191 After discharge ______ Years Months Days.
Condition Satisfactory Retrogressive ______
(Leave above spaces blank for use at Sanatorium.)

Physicians in charge of Dispensary will please instruct Dispensary Nurse to inspect ex-sanatorium patients in March and September of each year
Reports should be forwarded not later than April 15 and October 15
Send reports to Medical Director of Sanatorium of which the patient was an inmate.
A copy of each report should be kept on file in the Dispensary.
Please review each report carefully before mailing, and see that all questions are clearly answered.

patients remain cured after a period of years, and after all until we have compiled such statistics for a period of years we shall not be able to say definitely how much good we are accomplishing with hospital and dispensary treatment.

Accompanying is the blank on which the nurse's report is to be returned.

SAMUEL G. DIXON, M.D., State Health Commissioner,
Harrisburg, Pa.

Virchow and Pasteur

To the Editor:—All those who relish rich and lofty natures, great characters who have marked their impress on a whole generation, and left of their passage a trace that time shall not obliterate, will have read with interest and emotion your editorial in THE JOURNAL, Sept. 9, 1911, page 904. The very day your article was published was the anniversary of that on which Virchow was laid to rest nine years ago; and it was indeed a fitting tribute to him to commemorate on such a day the personality of this great man, and to take as the motto of his eulogy what was the characteristic of his personality: his generosity.

A great scientist, a great educator and above all a great citizen and patriot—Virchow was all that, and to a degree that is uncommon to see combined in a single man. An absolute faith in the progress and the destinies of humanity, to which he had devoted all the gifts of his rich nature, and an ardent and generous sympathy for anything that was noble and great were among the most eminent characteristics of Virchow. And so, when he was called on to take the defense of Pasteur, and to vindicate his memory before the German scientific world, he had no great effort to make: he had only to obey the commands of his lofty nature. As for Pasteur himself, there is a peculiarity concerning his attitude toward Germany which has not been put in the proper light, and which, distorted as it has been by the passions of the time, is apt, if left unchallenged, to misrepresent him before posterity.

Your editorial seems to ascribe Pasteur's unwillingness to accept the distinctions offered him by the German government to a natural soreness over the reverses of his country in the Franco-German war. This is not, however, the true reason of his attitude.

Men of the present generation could not adequately realize the stress of calamities and horrors that were visited on France during that unfortunate war. To recall them to-day would be to revive unnecessarily the bitterness and the animosities of a conflict on which, in the interest of peace and the comity between nations, it is preferable to let impartial history pass judgment. But while we admit that war is war; and that its excesses and violences must be condoned in a spirit of philosophic equanimity, if not of absolute submission, it is nevertheless true that the rigors and the bitterness evinced during the Franco-German conflict must have strained the fibers of patriotism to a point that left in the heart of a man like Pasteur an unconquerable soreness, to put it very mildly. As Virchow mentioned in his address, the unfortunate city of Strasburg, endeared particularly to Pasteur by family ties, sustained a continuous bombardment from August 14 to September 28, which made of that old and magnificent city a pile of ruins, including its lofty cathedral. And to cap the climax, what must have been for a scientist and a patriot an unforgivable affront, is the fact that the German scientists hastened to return their French distinctions, and to sever their scientific connections with their erstwhile rivals, now become their vanquished enemies. Virchow alone indignantly refused to participate in such undignified proceedings. In recalling those unfortunate episodes, my purpose is merely to point out that what seemed to superficial or misinformed observers the vain exhibition of a pique or the bitterness of national vanity, was in reality the deep feeling of self-respect and of wounded patriotism. It would have been unworthy the name of a true patriot to accept any distinctions from the German government, on whatever ground or pretext they were proffered. And such, we confidently expect, will be the verdict of impartial history, to which we must always appeal in these controverted matters. A. DELCOURT, M.D., SR., Houma, La.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

TECHNIC OF PROCURING NORMAL HUMAN BLOOD-SERUM

To the Editor:—Can you give me the technic of procuring normal human blood-serum? I have a case of epistaxis in a child of 6 who has had general nose-bleeding for several years, sometimes on one side and sometimes the other. He has had diphtheria antitoxin three or four years ago and I have given him an injection of normal serum (horse), which was followed by rather alarming symptoms of anaphylaxis so that I feel in doubt about using further horse-serum.

J. H. FARBER, M.D., Dayton, Ohio.

ANSWER.—For obtaining sterile human serum, use either a large antitoxin syringe or a large glass pipette, depending on the quantity of blood desired. Connect to this a medium-sized needle (an antitoxin needle does very well), and sterilize, preferably by boiling. Apply a rubber constrictor not too tightly about the fleshy part of the upper arm; cleanse the skin over the antecubital fossa with alcohol (50 to 70 per cent.) and insert the needle into the most dilated vein of the fossa. With a little practice, this can be accomplished without difficulty. Withdraw the desired quantity of blood by gentle aspiration (mouth suction is necessary if a pipette be used). Before withdrawing the needle, remove constrictor and cover site of insertion with an alcohol sponge. Then pull out the needle quickly and elevate the arm for a short time to avoid the formation of a hematoma. No dressing is necessary.

To obtain the serum: (1) After removing the needle and rubber connection from the syringe, and rapidly flaming its tip, expel the blood into a sterile container. Place this on its side on ice for eight or twelve hours, after which time the serum will be found free from the clot. Or (2) expel the blood into a sterile container within which is a small coil or loop of wire. Defibrinate by means of this by simply shaking the container and centrifuge off the corpuscles, using aseptic precautions. The former method usually yields the larger quantity of serum, and is to be recommended when haste is not an object.

GRADUATE STUDY ABROAD

To the Editor:—I am seeking some information relative to a graduate course abroad. First, is a knowledge of German imperative, for instance, to pursue successfully a course of study on the eye, ear, nose and throat in Vienna or Berlin? If so, can you refer me to a suitable book from the study of which one might be able to get a fair working knowledge of the language in a few months of study at home? Can you furnish me with data relative to the courses of study—for instance, length, cost, character—whether clinical or didactic—and the best time of the year to pursue such a course.

J. B. MORTON, M.D., Ridgefarm, Ill.

ANSWER.—Practically all of these questions were taken up in detail in THE JOURNAL, April 8, 1911, p. 1056.

TECHNIC OF WASSERMANN TEST

To the Editor:—Where can I find the necessary information to perform the Wassermann test?

R. F.

ANSWER.—A description of the technic of the Wassermann serodiagnosis of syphilis may be found in THE JOURNAL, Oct. 15, 1910, p. 1308. Reference may also be made to the following article: Fleischmann and Butler: Serum Diagnosis of Syphilis, THE JOURNAL, Sept. 14, 1907, p. 934. The method may be found in the later text-books on clinical diagnosis; for instance, Anders and Boston, or Simon.

THE INTERNATIONAL MEDICAL CONGRESS

To the Editor:—Please be kind enough to advise if you have any information as to the postponement of the International Medical Congress, which is to hold its next session in London. I have seen somewhere a report that the session has been postponed to 1913.

CHARLES WOOD FASSETT, St. Joseph, Mo.

ANSWER.—The Seventeenth International Medical Congress is to be held at London, Aug. 6 to 12, 1913. The general secretary is Dr. W. P. Herringham, 40 Wimpole Street, London, W., Eng.,

The Public Service

Medical Department, U. S. Army

Changes during the week ended Sept. 30, 1911.

Wing, Franklin F., dental surgeon, ordered to proceed from Fort D. A. Russell, Wyo., to Fort Lincoln, N. D., for temporary duty.

Whaley, Arthur M., captain, detached to represent the Medical Department of the Army at the sixteenth annual session of the Seaboard Medical Association of Virginia and North Carolina, to be held at Newport News, Va., Dec. 5 to 7, 1911.

Suggs, Frank, and Hall, William E., ordered to report in person, Oct. 2, 1911, to the Army Medical School for the required course of instruction.

Stallman, George P., M.R.C., granted two months' leave of absence, to take effect about Nov. 1, 1911.

Gifin, Adolphe M., M.R.C., on arrival at San Francisco will proceed to Fort Riley, Kan., for duty.

The following named first lieutenants of the Medical Reserve Corps, recently appointed, are ordered to active duty in the service of the United States and will repair to this city and report in person on Oct. 2, 1911, to the Army Medical School for a course of instruction: Baylis, James E.; Bunker, Sidney M.; Castlen, Charles R.; Dailey, Michael A.; Hammond, Johnson F.; Meister, William B.; Tarleton, Lessen O., and Wilde, Adna G.

Medical Corps, U. S. Navy

Changes for the week ended Sept. 23, 1911.

Owens, W. D., P. A. surgeon, detached from naval hospital, Newport, R. I., and ordered to the training station at that place.

Baker, M. C., P. A. surgeon, detached from training station, Newport, R. I., and ordered to the hospital at that place.

Seaman, W., surgeon, detached from the naval station, Pensacola, Fla., and ordered to the naval disciplinary barracks, Port Royal, S. C.

Jenness, B. F., P. A. surgeon, ordered to the naval hospital, Norfolk, Va.

Kelley, H L., P. A. surgeon, detached from the navy-yard, Mare Island, Cal., and ordered to duty at the naval hospital, Norfolk, Va.

The following assistant surgeons have been detached from respective stations and ordered to the naval medical school, Washington, D. C., for instruction: R. H. Lanning, from Mare Island hospital; P. B. Ledbetter, L. Sheldon, R. F. Jones, from naval hospital, Norfolk, Va.; J. C. Parham, from naval hospital, Philadelphia: C. M. George, from naval hospital, New York.

Schier, A. R., A. A. surgeon, ordered to marine recruiting station, Kansas City, Mo.

Changes for the week ended Sept. 30, 1911.

Wheeler, W. M., surgeon, detached from the *Kansas* and ordered to the naval hospital, Norfolk, Va., for treatment.

Whiteside, L. C., P. A. surgeon, detached from the *New Jersey* and ordered to the navy-yard, Boston.

Reeves, I. S. K., P. A. surgeon, detached from the navy-yard, Philadelphia, and ordered to the *Iowa, Indiana* and *Massachusetts*.

Bacon, S., P. A. surgeon, detached from command of the naval hospital, Fort Royal, S. C., and ordered to the naval disciplinary barracks and additional duty at the naval hospital, Port Royal, S. C.

Noble, D. H., P. A. surgeon, ordered to the navy-yard, Philadelphia.

Eytinge, E. O. J., P. A. surgeon, detached from the *South Dakota* and ordered to the *Cincinnati*.

Dykes, J. R., P. A. surgeon, detached from the naval hospital, Mare Island, Cal., and ordered to the *South Dakota*.

Holeman, C. J., P. A. surgeon, ordered to the navy recruiting station, Indianapolis.

Raison, T. W., P. A. surgeon, detached from the navy recruiting station, Indianapolis, and ordered to the *Florida*.

Smith, W. B., P. A. surgeon, resignation as a passed assistant surgeon in the Navy accepted, to take effect Oct. 1, 1911.

Woodland, E. E., asst.-surgeon, detached from the *Indiana, Iowa* and *Massachusetts* and ordered to the *New Jersey*.

Cecil, A. B., asst.-surgeon, resignation as an assistant surgeon in the Navy accepted, to take effect Oct. 1, 1911.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended Sept. 27, 1911.

Cobb, J. O., surgeon, relieved from duty at Milwaukee, Wis., and directed to proceed to Chicago and assume command of the service.

Stimpson, W. G., surgeon, granted seven days' leave of absence from Sept. 20, 1911, under paragraph 189, Service Regulations.

Nydegger, J. A., surgeon, granted one month and fourteen days' leave of absence from Sept. 24, 1911.

Mathewson, H. S., P. A. surgeon, directed to proceed to Milwaukee, Wis., and assume charge of the service.

Grubbs, S. B., P. A. surgeon, granted one month and nine days' leave of absence from Oct. 31, 1911.

Robinson, D. E., P. A. surgeon, directed to proceed to Naples, Italy, for duty.

McClintic, T. B., P. A. surgeon, directed to proceed to New Berlin, N. Y., via Albany, N. Y., on special temporary duty.

McLaughlin, A. J., P. A. surgeon, directed to proceed to certain ports on the drainage basin of lakes Michigan and Superior on special temporary duty.

Guthrie, M. C., P. A. surgeon, granted one month's leave of absence from Oct. 1, 1911.

Bean, L. C., A. A. surgeon, granted thirty days' leave of absence from Sept. 22, 1911.

Cleaves, F. H., A. A. surgeon, granted twenty days' leave of absence from Oct. 4, 1911.

Gill, S. G., A. A. surgeon, granted twenty days' leave of absence from Oct. 5, 1911.

O'Neil, A. A., A. A. surgeon, granted seven days' extension of annual leave on account of sickness, from Aug. 1, 1911.

Society Proceedings

COMING MEETINGS

American Association of Railway Surgeons, Chicago, Oct. 18-20.
Delaware State Medical Society, Lewes, Oct. 10.
Idaho State Medical Association, Boise, Oct. 11-13.
Kentucky State Medical Association, Paducah, Oct. 24-26.
Medical Assn. of the Southwest, Oklahoma City, Okla., Oct. 10-12.
Medical Society of Virginia, Richmond, Oct. 24-27.
Mississippi Valley Medical Association, Nashville, Tenn., Oct. 17-19.
Nevada State Medical Association, Reno, Oct. 10-12.
Vermont State Medical Society, Burlington, Oct. 12-13.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS

Twenty-Fourth Annual Meeting, held in Louisville, Ky., Sept. 26-28, 1911

The President, Dr. Herman E. Hayd, Buffalo, in the Chair

Officers Elected

The following officers were elected for the ensuing year: President, Dr. Xavier O. Werder, Pittsburgh; vice-presidents, Drs. Louis Frank, Louisville, and M. A. Tate, Cincinnati; secretary, Dr. E. G. Grinkle, Cincinnati; treasurer, Dr. Herman E. Hayd, Buffalo.

The next annual meeting will be held in Toledo, Ohio, September, 1912.

Another Protest Against the Routine Use of Purgatives

Dr. Edwin Walker, Evansville: Purgatives are used entirely too often by the profession and laity. This routine use is vicious and does much harm. Is it good practice to assume that every one who requires a surgical operation likewise requires a purge? If there is fecal impaction a single purge will not remove it: several days at least will be necessary. The purgative increases the amount of fluid and also stimulates germ activity, which renders the condition less favorable for an operation on the intestine or elsewhere. Careful study of each case with more accurate diagnosis will almost do away with the habitual use of laxative drugs. The purge after a surgical operation is needed in some cases to prevent accumulation in the rectum, which is not serious but causes some discomfort. Quiet and limited diet are the causes of their failure to act, and when a liberal diet can be taken, laxatives are rarely required. The purgatives cannot remove infection. For local or general peritonitis following a laparotomy it is contraindicated. For seven years I have not given a purge before a surgical operation, except in rare cases, not 1 per cent. Patients are stronger and in a better condition for the ordeal. They have done better in every way, were more comfortable, and the abdominal cases had less pain and tympany. Gas pains were much less frequent. There were no complications which could be ascribed to the omission of the purge. Routine purgation in all surgical cases is absurd, is contrary to reason, and should be abandoned.

DISCUSSION

Dr. E. Gustav Zinke, Cincinnati: It is my practice to take a daily scant teaspoonful of epsom salts. After this is taken the bowels act naturally and satisfactorily in from fifteen to twenty minutes after breakfast. This must be associated with a mixed diet, solid food and exercise to keep the tone of the muscular structure of the colon in its natural function. Diet and exercise, with a little saline every morning before breakfast, will answer in the vast majority of cases.

Dr. H. W. Longyear, Detroit: If you give cathartics in cases of enteroptosis, it is extremely harmful. If the practitioner has a colon to deal with which is angulated and dropped down into the pelvis, if he gives the patient having that trouble cathartics he is going to do him or her, as the case may be, a vast amount of harm. He is whipping the colon into an increasing action. It is like whipping a tired horse.

Dr. William H. Humiston, Cleveland: We should distinguish between a purgative and a laxative. A purgative is an irritating medicine always, while a laxative is not. I would dislike to continue the practice of my specialty unless I could avail myself of the benefits of what I call tonic laxatives. In my abdominal operations, where the patients are in the hospital. I have the bowels thoroughly cleaned out two days before operation by the administration of a dose of castor oil. A short time before the operation a high enema is given.

Dr. Joseph M. Mathews, Louisville: I believe that six-tenths of the people are constipated. If that is true, what are we going to do to unload their bowels? What harm can a purgative or laxative do if you give it two days before an operation to unload the bowel of toxins or of fecal matter? The daily administration of a laxative is a good thing. Why not? The bowel is the sewer of the body, and why not wash it out, and what harm does it do to wash it out? You cannot simply prescribe a purgative and let these patients go. You cannot relieve them by prescribing a purgative. Many of them have pathologic conditions and in many of them there is an atonic condition of the bowel. Peristalsis is impaired and you must excite it, but it will take a long time to overcome the constipation from which some of these patients suffer. For a great many years I have given purgatives to patients two or three days before operating on them to empty the bowel. In many instances the condition of some of these patients who suffer from constipation is a surgical one, and oftentimes you are warranted with Mr. Lane and Mr. Mummery in removing the colon.

Dr. Hugo O. Pantzer, Indianapolis: I would not denounce the routine use of purgatives as strongly as the essayist does. I would emphasize one point that is not usually observed, namely, to assume that a single bowel movement for each twenty-four hours is a cause of constipation in a vast majority of cases is radically wrong. There is no organ in the body that absorbs moisture with greater avidity than does the rectum, the stomach being secondary in this regard, and that means intestinal autointoxication. If there is anything I have learned before, during and after operation, it is that the specific gravity of the urine and quantity of urea and other indications of normal elimination by the kidneys are diminished, and owing largely to constipation. There is inconvenience for the human being to go to the closet whenever he or she, as the case may be, feels the desire, and hence nature's call is frequently disregarded, but we should invariably after we feel this prompting act on it to eliminate by the rectum. It is the rectal retention of feces that does great harm.

Dr. Charles L. Bonifield, Cincinnati: It is necessary for the majority of people to have at least one evacuation of the bowels every twenty-four hours, and most people would be better off if they had more frequent evacuations. The laity use laxatives for the reason that they feel better after a free bowel movement. Many patients are constipated because the movement of the bowels is attended with more or less pain, and on account of this discomfort they put off going to stool as long as possible. In inflammatory conditions of the pelvis, I know of nothing except the prolonged use of hot douches that has so much tendency to deplete the congested pelvic organs as a free calomel purge, followed by a saline cathartic.

Dr. James F. Baldwin, Columbus: When patients come to me with constipation as a marked symptom, I send them to a professional friend who makes diseases of the alimentary canal a specialty. If after a few weeks or months he finds he cannot cure these patients, I make a modification of the Lane operation; that is, switching the ileum from the beginning of the colon to the sigmoid. I have had no deaths from this operation, no morbidity, and the operation has given me in these bad cases excellent results.

Treatment of Sliding Hernia

Dr. Walter C. G. Kirchner, St. Louis: The principal steps of my operation are to convert immovable or adherent bowel into movable bowel; to make complete reduction possible; to construct the partial or incomplete sac into a normal complete sac; to permit ligation of the sac high up beyond the ring; to enable the complete repair of the hernia to be made by one of the typical and accepted operations for hernia. The sac, after it has been isolated, is incised on either side, near and parallel to the bowel, and in this way the bowel is provided with two lateral flaps of sac. The adherent bowel having been made movable beyond the ring, the sac flaps are turned back and sewed over the denuded area of bowel, and reposition of bowel into the abdominal cavity is thus made easy. The next step lies in the partial reconstruction of the sac so that ligation or suture at the neck as in normal cases is made possible. In fifteen operations by this method, there were ten for sliding hernias of the sigmoid and five for sliding hernias of the cecum. All the cases occurred in adult male patients. In one case, the sliding hernia was through the femoral ring, there being also present a right and a left inguinal hernia. In eight cases there were double inguinal hernias, and in two instances these were complicated by femoral hernias. Undescended testicle was encountered once, and hydrocele four times. In the fifteen cases twenty-five separate herniotomies were performed, all the patients making a satisfactory recovery.

Dr. John Young Brown, St. Louis: My experience has been limited to five cases; the hernia has been on the right side. In three of them the cecum and appendix were densely adherent to the sac, making it difficult to liberate the adhesions. Dr. Kirchner's method has been of the greatest possible value to me. There is one thing in dealing with these hernias that must be carefully avoided. As the essayist has shown, the sac is incomplete. In one of my cases in endeavoring to open the sac, the bowel being attached behind, I came near getting into the bowel proper. This sliding variety of hernia is attached behind by the folds of mesentery, and by opening the sac in front, lifting up the bowel in the manner in which he has described, cutting the sac at right angles, you should see to it that the bowel is returned so that there will be no constriction of it at this point.

Angioma of the Uterus, Bladder and Broad Ligaments

Dr. Hugo O. Pantzer, Indianapolis: This was a case of racemose angioma of the uterus, bladder, urethra and broad ligament. The patient was 26 years of age, married, went through three pregnancies, two of which terminated at full term by forceps delivery. The cause of the dystocia was unknown. Both of the children were born dead. The third terminated in the second month, probably owing to the angioma. This event was followed by grave hematuria, and vesical tenesmus, and excessive metrorrhagia and menorrhagia. A fatal issue was averted by celiotomy and circumambient ligation. There was no more hematuria, except transient shortly after operating, provoked by exposure to cold and subsequent acute bronchitis and coughing. This attack of hematuria lasted two weeks, then it disappeared. Vesical irritability subsided gradually and permanently. Menstruation, which at first was profuse and prolonged, gradually became normal. One year and one-half later the patient developed suppurative appendicitis. Operation revealed a recurrence of the angioma in the broad ligament external to the previous seat of the neoplasm. Ligation was again resorted to. Examination of the patient two years after the first operation revealed the non-presence of angiomatous growth. There has been no return of the hematuria. The bladder is not irritable. Menstruation is normal. The patient's general health is good.

DISCUSSION

Dr. Walter B. Dorsett, St. Louis: I have had two cases of angioma of the uterus in which I have taken out the organ. In operating in cases in which we have a suspicion of angioma, I think the ligation of the vessels is best made *en masse*, and sew in the suture after thoroughly tying it with a No. 2 catgut ligature.

Dr. Francis Reder, St. Louis: I have met with various angiomatous conditions of the uterus in connection with fibroid tumors, where it was necessary to ablate the organ. Sometimes we meet with angioma in the broad ligaments, or the pampiniform plexus. We know that in these racemose angiomas we have destruction of the anterior uterine wall, and one finds a resisting organ of considerable density.

Dr. Charles L. Bonifield, Cincinnati: I agree that it is best to ligate the ovarian arteries *en masse*, and during the report of this case it struck me that it might have been possible and would have made the operation easier, had Dr. Pantzer by ligating the ovarian artery on the right side proceeded to ligate the internal iliac artery, as we do in some cases of extensive cancer. In this way he would have had thorough control of the arterial supply of the tumor.

(*To be continued*)

ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES

Twentieth Annual Meeting, held at Milwaukee, Wis.
Sept. 26-29, 1911

The President, Brigadier General George H. Torney, U. S. Army, in the Chair

The officers elected were named in THE JOURNAL, September 30, page 1144.

Foreign Delegates

The following delegates were present from foreign countries: France:—Surgeon Inspector Fevrier of the War Department, Paris, and Surgeon Second Class Ruotte of St. Martin's Military hospital, Paris; Argentine Republic—Dr. Jose Garrochateugui, chief surgeon of the Argentine Naval Commission in the United States and Regimental Surgeon Captain Antonio Agudo Avila, Buenos Aires; Canada—Lieutenant-Colonel Adam T. Shillington, A. M. C., Ottawa; China—Lieutenant-Colonel Hwang-I, chief surgeon, Second Division of the regular army and Lieutenant-Colonel Lu Ch'ang-en, chief surgeon Fifth Division of the regular army; Guatemala—Dr. Don Ramon Bengoechea, Guatemala City, and Great Britain—Surgeon-General Arthur William May, Royal Navy.

Entertainments

The entertainment provided by the local committee included, on Tuesday, after the public meeting, a reception and smoker at the University Club; on Wednesday, a palm garden luncheon; on Thursday, an automobile excursion around Milwaukee, with a luncheon at Whitefish Bay, and a theater party. The courtesies of the Milwaukee, University, Deutscher and Athletic clubs were extended to members and guests.

Public Meeting

The public meeting was held at the Conservatory of Music, Tuesday evening. Lieutenant-General Arthur MacArthur, U. S. Army, retired, was in the chair; Hon. Francis E. McGovern, Governor of Wisconsin, welcomed the members on behalf of the state, and Dr. Arthur J. Patek, president of the Milwaukee Medical Society, on behalf of the medical fraternity. The president delivered his annual address and the chairman of the evening made remarks regarding the overloading of the soldiers with equipment. In many of the addresses especial and affectionate mention was made of the founder of the association, a Milwaukeean, the late Col. Nicholas Senn. The foreign delegates were presented and addressed the audience, and each was presented with the insignia of the association.

Salvarsan

Surgeon Richard B. Williams, U. S. N., in his paper on "The Treatment of Syphilis with Salvarsan," described the method of administration and the results obained on board the U. S. S. *South Carolina*. He advocated the great advantage, from the standpoint of prevention, of treating all cases of syphilis by the intravenous administration of salvarsan. The mucous patches and condylomata being the most contagious ions, the method of treatment which will cause the prompt ppearance of these lesions will have great value in preting the spread of the disease. This is especially true in the military service where the use of drinking-cups or other utensils in common is more or less unavoidable.

Captain Henry J. Nichols, M.C., U. S. Army, reported the immediate clinical effects of the use of salvarsan in the Army. More than 1,200 patients were treated from January to September. In 422 of these cases the method of administration and results were as follows: intramuscular—142 cases of moderate, and 61 of severe results; intravenous—125 cases of moderate, and 60 of severe results, and subcutaneous—28 cases of moderate and 6 of severe results. By lesions the results were as follows: primary lesions—30 healed, 2 not healed; secondary eruptions—92 healed, 4 not healed; mucous patches—128 healed, 4 not healed; rupia—5 healed; iritis—10 healed; alopecia—2 healed; ulcers—14 healed, 3 not healed; joint pains—11 healed, 2 not healed; psoriasis—11 healed; headache— 4 healed, 2 not healed; gummata—7 healed; paralysis—2 healed, 1 not healed. In all 94 per cent. were healed, and 6 per cent. not healed.

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Passed Assistant Surgeon John G. Ziegler, U. S. Navy, reported at tour of duty with a battalion of U. S. Marines on the Isthmus of Panama, and as a result of careful observations draws the following deductions: that the isthmus, as a place of continuous habitation for not more than two years, is as healthful as the average place in the United States, but after two years there is a tendency toward physical deterioration and mental unrest which renders longer residence unadvisable; that recruits or men in their first term of enlistment bear the tropics best; that to secure contentment, means of amusement and recreation must be provided; that a proper amount of work is beneficial and favors contentment; alternating drill and police periods relieves monotony and freshens the men; that the regular ration in use in the United States is best for the men; that sunstroke and heat exhaustion are rare and harm by actinic rays mostly theory; that the khaki uniform is satisfactory, and that, outside of malaria and certain skin affections, other tropical diseases are rare on the isthmus.

Gonorrheal Prophylaxis

Assistant Surgeon Reginald B. Henry, U. S. Navy, in his brief paper on "Calomel in Gonorrheal Prophylaxis," gives the result of a six-months' experience of the use of an ointment containing 50 grams of calomel, 80 c.c. of liquid petrolatum, and 70 grams of lanolin among the men of the U. S. S. *Rainbow*, on the Asiatic station. During the period named, there were 529 admitted exposures, with four cases of gonorrhea. Of these four patients, one denied exposure and did not receive the treatment; two received treatment more than twelve hours after the exposure, so that only one possible failure of treatment remained, a percentage of .189. He finds the calomel cheap, efficacious, cleanly and non-irritating. The ordinary glass penis syringe was used for the injection of the ointment.

Passed Assistant Surgeon Allan J. McLaughlin, U. S. Public Health and Marine-Hospital Service, read a paper on "Modern Methods of Quarantine against Asiatic Cholera." The presence of cholera in Europe at this time makes this account of the methods used at quarantines in this country to prevent the entrance of the disease into the United States of particular interest to the general public. Officers of the Public Health and Marine-Hospital Service are attached to the office of the

consuls in foreign ports where cholera is prevailing, to hold under observation for five days persons coming from infected districts, before they are allowed to ship for the United States. These persons are also kept under observation by the ship's surgeon during the voyage, and he reports any cases of sickness that may occur among them. When the vessel arrives at a port in the United States, a bacteriologic examination is made of each passenger to see if any of them have cholera, or is a cholera "carrier." A "carrier" is a person who has the germ of the disease in the body, though he shows no symptoms of the disease. These people are liable to spread cholera because no one knew they had the germ in them. The bacteriologic examination reveals the fact if they are cholera carriers, and they are detained. Those who are free of the infection can now be released from quarantine in from twenty-four to forty-eight hours, instead of being held for five days as was formerly the case.

(To be continued)

INTERNATIONAL MUNICIPAL CONGRESS AND EXPOSITION

Held in Chicago, Sept. 18 to 30, 1911

This congress, held under the auspices of the City of Chicago, Chicago Association of Commerce, Industrial Club Citizens' Association, Civic Federation, City Club United Charities, Rotary Club and Chicago Board of Underwriters, and officially approved by the United States Government, held its sessions in Chicago from September 18 to 30, inclusive. The sessions of the last three days were especially devoted to matters of municipal health, and the discussions were noteworthy in that the authors of papers and those who discussed them embodied their experiences in the particular subject, and the speeches were not, as it is usually the case, academic.

Control of Milk-Supply

After a full discussion on the control of milk-supply, the following conclusions were drawn: Cities should have testing of cows for tuberculosis; milk should be dated; icing should be required from the farm to the consumer; the sale of old milk should be prohibited; investigation of every case of contagious disease should show the milk-supply of the family, and the health department records should show the health record of every milk dealer, as regards communicable diseases among his customers. There should be a bacteriologic standard. The number of bacteria allowed should be lowest in cities where the milk is supplied by cows in the municipality; a higher number of bacteria should be allowed where the milk is hauled in wagons, and a still higher number should be allowed in cities into which milk has to be shipped by rail. Every city should use the dirt test. The method of bacteriologic examination approved was that which had been approved by the American Association of Certified Milk Commissions and the Laboratory Section of the American Public Health Association. The method of dirt examination approved was that in use in the Chicago Health Department.

Control of Contagion

A series of questions was sent to the members of the congress regarding this subject, prior to the meeting, and this gave a much higher tone to the discussion. The conclusions arrived at were: Houses should be disinfected after scarlet fever, diphtheria, tuberculosis, small-pox and anterior poliomyelitis; disease carriers should be excluded from schools: schools should not be closed on account of epidemics of scarlet fever, diphtheria and measles; vaccination should be required for all school children, diphtheria should be diagnosed on throat cultures to end quarantine, but clinical evidence should be necessary to install a quarantine, subject to revision by culture; a laboratory is necessary in the health department; typhoid fever should be made a reportable disease, and it is feasible to charge each case of contagion against the milk dealer (a committee consisting of Dr. John H. Landis, Cincinnati, and Dr. William A. Evans, Chicago, was appointed to draw up a plan of procedure); the health department should have a list of customers of each milk dealer; cases of late tuberculosis should be universally hospitalized, all small-pox should be hospitalized, and all schools should have physical and dental examinations.

Sewage, Stables and Slaughter-Houses

Questions were similarly sent to those who participated in this discussion, and the section arrived at the following conclusions: Yard privies should be allowed only in unsewered territories; the vault system should be used where there are sewers, and Stiles' boxes in unsewered localities; removal of contents of boxes should be made during the day rather than at night; removal should be by the municipality; privies should be licensed, and the ordinances should specify the type of construction and require a permit to build; the government type of closet and the government septic barrel should be required by law; stables should be licensed; manure boxes should be covered and should be impervious; the ordinances should specify the frequency of emptying at intervals of less than ten days; cow barns should be licensed; slaughter houses should be licensed; all meat, including that of calves, should be inspected and tagged, and killing of poultry should be controlled under license and should be done only in specified places.

Water Protection and Sewage

The discussion on protection of water and disposal of sewage was carried out only in part as the section adjourned to organize the Great Lakes Basin International Pure Water Association, which is noted elsewhere in this issue. Resolutions were passed, however, that no sewage or trade waste water should be allowed in lake waters untreated or uncontrolled, and that the government should take proper action to control ship sewage and the water-supply of ships.

(To be concluded)

AMERICAN ROENTGEN RAY SOCIETY

Twelfth Annual Meeting, held in Richmond, Va., Sept. 20-23, 1911

The President, Dr. Percy Brown, Boston, in the Chair

Officers Elected

The following officers were elected to serve for the ensuing year: president, Dr. Frederick H. Baetjer, Johns Hopkins University, Baltimore; vice-presidents, Drs. H. W. Van Allen, Springfield, Mass.; G. M. Steele, Oshkosh, Wis.; J. H. Edmondson, Birmingham, Ala.; W. H. Eagar, Halifax, N. S., and Hollis E. Potter, Chicago; secretary, Dr. Henry K. Pancoast, University of Pennsylvania, Philadelphia; treasurer, Dr. Charles F. Bowen, Columbus, O.; librarian, Dr. H. W. Dachtler, Toledo, O.; executive committee, Drs. P. M. Hickey, Detroit; Arthur Holding, Albany, N. Y., and Alfred L. Gray, Richmond, Va.

Niagara Falls, N. Y. was selected as the place for holding the next annual meeting, September, 1912.

Requirements for Admission to Membership Raised

Hereafter an applicant for membership in the society must be a graduate in medicine and have been engaged actively in roentgenology for at least two years after his graduation, and he must submit a scientific paper on roentgenology to the executive committee at least six months before the next annual meeting, besides securing the recommendation of two members of the society and of at least one practicing physician or surgeon in good standing in his immediate neighborhood. The name and address of the applicant and the names and addresses of his sponsors must be published in the *Quarterly* at least twice before the next annual meeting.

Roentgenology and Its Relation to the Law

Dr. Percy Brown, Boston: Of cases in which legal proceedings have been instituted for the alleged misuse of the Roentgen ray, occurrences are fewer than formerly. This is no doubt due to the fact that the clinical application of the ray is being relinquished by unqualified and incompetent persons. Evidence adduced by the ray is regarded much in the same light as a solar photograph would be. It is considered documentary evidence. The qualifications of the roentgenologist as a medical expert witness should be estab-

lished; his recognition in his own community and in a recognized society of his colleagues should be ascertained and certified to. In court an absolutely neutral attitude should place him beyond reproach. His evidence should be prepared carefully and with attention to detail. Except for purposes of his own identification, all records should be marked in the presence of the court at the time they are admitted as evidence. Unless his evidence can rest on the framework of his professional qualifications as an expert, it will lose weight and even be discarded.

Roentgen Ray in Hypertrophied Prostate

Dr. James W. Hunter, Norfolk, Va.: The ideal treatment in hypertrophied prostate is radical removal of the gland. In the hands of expert operators who select their cases the results are excellent; in the hands of the occasional operator or the inexpert, the mortality is high. In selected cases roentgenotherapy is of great value. When the increase in size is due largely to overgrowth of the epithelium, the Roentgen ray will quickly diminish the size of the gland, but not so if there is much increase in the amount of connective tissue. The results from the treatment depend largely on the histologic structure. Massage is indicated as an adjuvant. The mortality is *nil*.

DISCUSSION

Dr. Hollis E. Potter, Chicago: It is not easy to differentiate by digital examination between a fibrous, muscular or epithelial enlargement of the prostate; but by raying the testicles as well as the prostate, we can produce an effect analogous to that produced by raying the ovaries and uterus, reducing the size of the gland considerably. I have, however, seen few good results follow the Roentgen treatment of hypertrophied prostate.

Dr. George E. Pfahler, Philadelphia: Sufficiently good results have been obtained by careful workers to cause us to consider this treatment of hypertrophied prostate in otherwise hopeless cases, and to justify its use. It is especially indicated in the case of old or decrepit patients who cannot stand an operation, and in patients in whom the question of procreation is not to be considered.

Postoperative Roentgenization in Cancer

Dr. Clarence E. Skinner, New Haven, Conn.: The Roentgen ray has demonstrated that it exhibits a powerful curative influence on malignant degeneration, hence its routine use as a postablative measure will increase greatly the number of curative cases. It is impossible to tell beforehand which cases will need roentgenization and which will not, or which cases will respond happily and which will not respond at all, hence the only way to be sure of treating all cases that will need it and that will respond, is to treat all cancer cases. Roentgenization should be commenced as soon after operation as is consistent with the safety of the tissues involved in the operation wound and before recurrence has had an opportunity to manifest itself. The application of the ray should be entrusted only to those who are competent and experienced. These patients should not be rayed before operation because the effect of vigorous radiation of the malignant growth is to produce a certain amount of systemic toxemia, which has been known to be severe enough to kill the patient. Such radiation also often leads to an increase in fibrous tissue, leading to such confusion of tissue and obliteration of normal tissue distinctions and relations as to embarrass the operator. Furthermore, effective pre-operative radiation means delaying the operation unnecessarily.

DISCUSSION

Dr. George E. Pfahler, Philadelphia: There is no doubt of the good effect of the Roentgen ray in these cases. Unfortunately, the average surgeon will only refer those cases in which there is bound to be a recurrence and in which, therefore, little good can be effected. Ante-operative radiation is not advisable as a routine procedure, although I do not believe that it is as harmful as Dr. Skinner seems to think. I have not seen any evidence of toxemia. However, postoperative treatment is certainly advisable and effective.

Dr. J. H. Edmondson, Birmingham, Ala.: Is it not advisable to excise nodular recurrences in the scar before beginning the Roentgen treatment?

Dr. W. H. Eagar, Halifax, N. S.: We undoubtedly get a tremendous degree of toxemia from pre-operative treatment, but early and effective radiation following the operation is the proper thing. Unfortunately these patients are not referred to us until after recurrences have appeared.

Dr. J. H. Selby, Rochester, Minn.: I believe that surgeons are becoming aware of the value of immediate postoperative roentgenization in these cases, because when the treatment is carried out by an expert who cooperates with the surgeon the results are always good.

Dr. Frederick H. Baetjer, Baltimore: The pre-operative treatment of such patients is criminal. The Roentgen ray is stimulative and destructive, and any such form of treatment of a malignant process is wrong. We must not do anything to increase cell division because that increases the possibility of metastases occurring. A carcinoma that is operable is a surgical condition and not to be treated by the Roentgen ray. So far as postoperative treatment is concerned I agree with the other speakers. I believe, however, that in many cases where enlarged glands are broken down by radiation these glands are not carcinomatous but simply enlarged as the result of an inflammatory condition or reaction.

Carcinomatosis of Bones Secondary to Growth in Some Epithelial Organ

Dr. Russell H. Boggs, Pittsburgh: Carcinoma of the bone is always secondary. As a rule, it is not recognized until fracture occurs. It may be secondary to cancer situated in any part of the body, and any bone may be involved, although it is usually a long bone. It is slow-growing and gives rise to symptoms which frequently lead to a diagnosis of rheumatism.

DISCUSSION

Dr. Henry K. Pancoast, Philadelphia: In one case I had there occurred a metastasis in the femur just below the great trochanter eight years after the removal of a cancer of the breast. In another case a similar metastasis occurred following the removal of a bronchial cyst which had undergone carcinomatous degeneration. I have also seen metastases in the vertebræ.

Dr. George E. Pfahler, Philadelphia: Patients who complain of vague rheumatic pains after operations for the removal of malignant growths often are later found to be suffering from a bone metastasis, and unless fracture of the bone occurs, the condition is not detected. A patient with recurrent carcinoma and metastases in the breast fell and broke his arm. I made a roentgenogram and found metastases not only in that arm, but in the other arm, and in one femur. Another patient fell and injured her hip. The roentgenogram showed distinctly a metastatic carcinoma and on careful examination the original tumor was discovered in the breast, a small cancer, of whose existence the patient was not aware.

Dr. Frederick H. Baetjer, Baltimore: I have seen quite a number of cases of metastasis of cancer in bone. Four of these were in the femur following a primary cancer of the breast. The femora and the spine are the most frequent seats of cancerous metastases. I have had two cases of cancer of the humerus secondary to cancer of the stomach, and one case secondary to cancer of the bladder. In another case there were extensive metastases in the femur and in the scapula secondary to the breast cancer.

Dr. George H. Stover, Denver: In four cases of metastatic cancer of bones which I saw the primary tumor was situated in the breast. In one case the condition was not discovered until a fracture of the bone occurred twenty-five years after the removal of the breast cancer.

Dr. John H. Selby, Rochester, Minn.: Following the removal of a tumor of the kidney, a patient developed sciatic-like pains. I found complete destruction of the pubes extending to the acetabulum. I have seen several cases of bone metastasis following cancer in distant parts of the body.

(To be continued)

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POSTGRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

MEN AND HOGS

Under this title, the Fresno (Cal.) *Republican* recently discussed health reforms, following Dr. McCormack's visit to that city. This editorial is a most rational and discriminating discussion on the unconscious attitude of the majority of people to health matters and is deserving of careful reading and consideration.

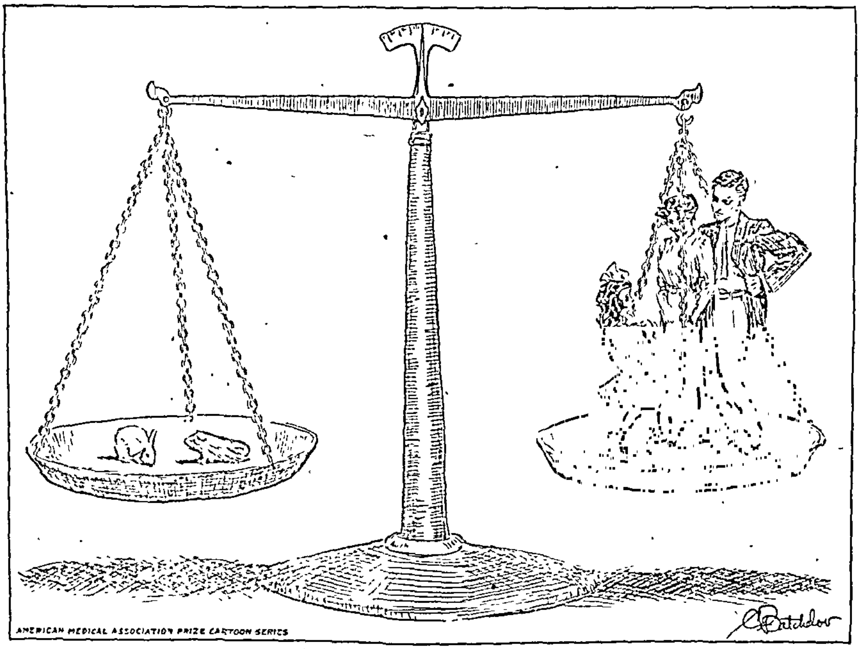
"Dr. McCormack, in his lecture last night, referred to the incongruity of the American government spending millions to eradicate the diseases of pigs and potatoes, and nothing to eradicate the diseases of men.

"The contrast is indeed somewhat startling, but the explanation is easy. For one thing, pigs and potatoes cost money, while men are cheap. Perhaps still more important, there are 'systems' or 'schools' with regard to the diseases of men, but none with regard to the diseases of animals or plants. Nobody ever offered to cure hog cholera by reading sermons to the swine, nor undertook to eradicate potato blight by spilling 1 drop of potato soup into the river from which the irrigation water came. Nobody ever tried to cure the boll weevil in cotton by untwisting some rootlets that had become entangled. Nobody ever undertook to argue the chinch bug out of existence by proving that it was inconsistent with the divine plan. And nobody would be listened to with seriousness if he proposed these things. We have passed the days of fetichism and witchcraft, in dealing with corn and cattle, and we accept scientific investigation as the way to find out scientific truth about them.

"But when it comes to human diseases, exactly these things are preached by the expounders of various sects of healing, and are devoutly believed by a multitude of adherents of those sects. The pear blight or the Anaheim disease we know to be facts, and when the scientists tell us they have not yet found the cause or cure of those diseases, we supply them with the money for further investigations instead of seeking some new magician who says he can cure them by incantations. But human diseases we know are mysteries; human physicians we know are magicians; and human healing we know to be a matter of faith, expressed in various creeds, each true to those that profess it and false to all others.

"This is a government by the people, and the people, in vast multitudes, believe these things. What matters it then that the divine penalty of sanitary heresy is death? We have fought out freedom of faith in theology, where the penalty of error is hell. Shall we not protect it in pathology, where the penalty of error is merely death? Is not the liberty of people to cure small-pox by abacadabral signs more precious than the lives of the citizens? Therefore, by what right shall the government establish a department for the scientific investigation and control of public health problems, when multitudes of people prefer faith in a creed to the collected results of scientific knowledge?

"This is the argument. It is illogical and ridiculous, but millions of entirely serious people believe it, and, so long as they do the right of a free government to care for human health will be abridged. Doubtless if hogs had votes, there would be similar limits on the protection of hogs. Any pig would prefer cholera swill to a protective inoculation. We respect the liberty of humans, but not of hogs, to indulge such preferences."


AMERICAN MEDICAL ASSOCIATION PRIZE CARTOON SERIES
C. Batchelor

TO THE ANTI-VIVISECTIONIST
"AT HOW MANY RABBITS OR GUINEA PIGS DO YOU VALUE: YOUR WIFE, YOUR HUSBAND OR YOUR CHILD?"

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

[NOTE.—The pamphlets containing the outline of the postgraduate study course for county societies for the coming year are ready for distribution. Secretaries of county societies can secure supplies by writing to the Secretary, Council on Health and Public Instruction, American Medical Association, 535 Dearborn Ave., Chicago.]

General Subject for the Month: Surgery of the Brain

Second Month—First Weekly Meeting

ANATOMY OF SKULL: DEMONSTRATE SPECIMEN

VERTEX OF SKULL: External surface—boundaries, bones included, sutures, glabella, bregma, inion.

Internal surface—shape, surface markings.

BASE OF SKULL: Internal surface, fossæ.

Anterior Fossa: Shape, boundaries, bones, portion of brain, foramen cæcum, olfactory groove, ethmoidal foramina.

Middle Fossa: Boundaries, bones, portion of brain, optic foramen, sella turcica, cavernous groove, sphenoidal fissure, foramen ovale, foramen spinosum, foramen lacerum medium, anterior surface of petrous portion of temporal.

Posterior Fossa: Shape, boundaries, bones, portion of brain, foramen magnum, jugular foramen, internal auditory meatus, inferior occipital fossæ.

EXTERNAL SURFACE: Boundaries, occipital, temporal, sphenoid and ethmoid bones, articular surfaces, orifices of foramina mentioned above, stylo-mastoid foramen. Roof and apex of orbit.

LATERAL REGION: Boundaries, bones.

Temporal Fossa: Boundaries, sutures, stephanion, pterion.

Mastoid Portion: Bones, mastoid process, auditory meatus.

Zygomatic Fossa: Spheno-maxillary fossa.

ANATOMY OF BRAIN

MEMBRANES OF BRAINS: (1) Dura mater; (2) arachnoid; (3) pia mater.

PORTIONS OF BRAIN: Medulla, pons Varolii, cerebellum, midbrain, cerebrum.

VENTRICLES: Lateral, third, fourth, foramen of Magendie, aqueduct of Sylvius, communications, contents.

Distribution of Gray and White Matter: (1) in the bulb; (2) in the pons; (3) in the midbrain; (4) in the cerebrum; (5) in the cerebellum.

Blood-Vessels: (a) To meninges; (b) to pia and brain substance. Circle of Willis and branches. Charcot's "artery of cerebral hemorrhage." Cerebral veins and sinuses.

Physiology of the Brain

Sensori-Motor Area: Fissure of Rolando, anterior and posterior central gyri, paracentral lobule, operculum, third frontal gyrus. Leg, arm and head regions. Hemiplegia, monospasm, Jacksonian epilepsy. Muscular sense, parietal lobes. Pressure, pain, temperature, sense.

Speech Areas: Sylvian fissure, third frontal convolution, motor aphasia. First and second temporal convolutions, sensory aphasia. Visual speech area, lower parietal. Right- and left-handed persons.

Sight Area: Occipital lobes, hemianopsia. Two visual centers.

Sound Area: First and second temporal convolutions.

Psychic Centers: Frontal lobes. "Silent areas."

Functions of Cerebellum: Coordination, psychical functions, location of function.

Functions of Medulla: Respiratory and circulatory centers

Cerebral Topography: Fissure of Rolando, fissure of Sylvius. Horsley's method. Krönlein's method, Chiene's method.

REFERENCE BOOKS FOR THE SECOND MONTH

Keen's Surgery, vols. ii and iii.
Bryant and Buck: Surgery.
Ballance: Surgery of the Brain.
Horsley: Brain and Spinal Cord.
Krause: Surgery of the Brain.
Phelps: Injuries of the Brain and Its Membranes.
Starr: Brain Surgery.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Georgia: Regular, Atlanta, October 10. Sec., Dr. C. T. Nolan, Marietta. Homeopathic, Atlanta, October 10. Sec., Dr. R. E. Hinman, 106½ Whitehall Street.

Illinois: Coliseum Annex, Chicago, October 26-28. Sec., Dr. J. A. Egan, Springfield.

Kansas: National Hotel, Topeka, October 10-12. Sec., Dr. H. A. Dykes, Lebanon.

Louisiana: New Orleans, October 19-21. Sec., Dr. A. B. Brown, 108 Baronne Street.

Michigan: Legislative Bldg., Lansing, October 10-12. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

Mississippi: State Capitol, Jackson, October 10-11. Sec., Dr S. H. McLean.

New Jersey: The State Capitol, Trenton, October 17-18. Sec., Dr. H. G. Norton, 429 E. State Street.

New Mexico: The Capitol, Santa Fe, October 9-10. Sec., Dr J. A. Massie.

Oklahoma: Muskogee, October 10. Sec., Dr. John W. Duke, Guthrie.

Wyoming: Riverton, October 9-11. Sec., Dr. A. B. Tonkin.

Maryland June Report

Dr. J. McPherson Scott, secretary of the Maryland Board of Medical Examiners, reports the written examination held at Baltimore, June 20, 1911. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 152, of whom 130 passed and 22 failed. Sixteen candidates were licensed through reciprocity, 1 by special examination, and 1 under the exemption clause. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Yale University	(1908)	86
George Washington University	(1911)	75, 81, 84
Howard University	(1910) 82; (1911)	90
Johns Hopkins University	(1901) 87; (1910) 81; (1911)	76, 78, 78, 78, 80, 80, 80, 81, 82, 83, 83, 83, 83, 83, 84, 84, 85, 85, 85, 85, 86, 87, 87, 87, 87, 88, 88, 88, 89, 91, 91, 91, 91, 91.
University of Maryland	(1904) 75; (1909) 76, 76, 78, 82, 83; (1910) 83; (1911)	75, 76, 76, 77, 77, 77, 79, 80, 80, 81, 81, 82, 83, 84, 84, 85, 85, 85, 86, 86, 86, 87, 87, 88, 89, 90, 91.
Baltimore Medical College	(1910) 81; (1911)	77, 83, 83, 85, 85, 86, 86, 86, 87, 87, 89, 89, 91.
Maryland Medical College	(1909) 75; (1911)	80, 81, 83, 84, 86
College of Physicians and Surgeons, Baltimore	(1911)	81, 81, 83, 83, 84, 85, 85, 86, 86.
Jefferson Medical College	(1906) 82; (1910) 91; (1911)	78, 82, 84, 85, 87, 89.
University of Pennsylvania	(1910) 80, 87; (1911)	80, 83
Woman's Medical College of Pennsylvania	(1911)	78, 79, 79, 82, 83, 84, 86, 87, 90, 91.
Medico-Chirurgical College, Philadelphia	(1911)	75
Temple University, Philadelphia	(1911)	81, 88

FAILED

College	Year Grad.	Per Cent.
Medical College of Georgia	(1909)*	
Coll. of Phys. and Surgs., Baltimore	(1910) 73; (1911)	73
University of Maryland	(1905) 69; (1910)* (1911)	72, 73
Johns Hopkins University	(1911)	71, 72
Maryland Medical College	(1907)* (1910)* (1910) 35, 41, 57; (1911)	52, 65, 70, 73, 74.
Woman's Medical College of Baltimore	(1904)	69
Medico-Chirurgical College, Philadelphia	(1905)	73
University of Pennsylvania	(1910)	72

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Kentucky School of Med., (1893) Dist. Colum.;	(1894)	Kentucky
Johns Hopkins University	(1910)	N. Carolina
Maryland Med Coll., (1902) (1903) (1905) (1908)	(1909)	W. Virginia
University of Maryland (1905) Delaware;	(1907)	W. Virginia
College of Physicians and Surgeons, Baltimore	(1907)	W. Virginia
Baltimore Medical College	(1897)	Vermont
University of Michigan, Dept. of Med. and Surg.	(1886)	Michigan
Leonard Medical School	(1908)	Georgia
University of Pennsylvania	(1910)	Maine
University of Zurich, Switzerland	(1892)	Illinois

LICENSED BY SPECIAL EXAMINATION AND UNDER EXEMPTION CLAUSE

College	Year of Grad.
College of Physicians and Surgeons, Baltimore	(1886)
University of Palermo, Italy	(1909)

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* Reexamined.

The questions asked were as follows:

ANATOMY

1. Name varieties of cartilage. 2. Describe briefly two varieties named. 3. Describe the clavicle. 4. Describe the hip joint. 5. What arteries supply the heart with blood and where do they originate? 6. Give general description of testicles. 7. Describe the pericardium. 8. What are the parathyroid bodies? 9. Name the twelve pairs of cranial nerves. 10. Name principal muscles of the back.

PATHOLOGY

1. Mention a cause for each of the following conditions: edema of one leg, edema of both legs, edema of one arm, ascites, edema of the lungs, hydrothorax. 2. What is meant by the term compensation as used in heart diseases? By broken compensation? Trace the course of events depending on the latter condition. 3. Mention at least five diseases that are transmitted by insects. Name the carriers and the method by which the infection is introduced. 4. What is a cyst? Mention two forms of cyst that are commonly met with, and explain their causation. What is meant by the term encysted? 5. Describe briefly the gross and microscopic appearances of an atrophic cirrhotic liver. Mention the pathologic changes inherent to this condition. 6. Describe the formation of scar tissue and mention its principal characteristics. 7. What is the Widal reaction? 8. What is an aneurysm? Describe the formation of an aneurysm of the aorta. 9. How would you demonstrate the presence of bacteria in milk? How would you estimate the number in a cubic centimeter of milk? 10. What are the essential lesions of scarlet fever? What means would you use to prevent the spreading of the contagion in this disease?

CHEMISTRY

1. Explain the following terms: (a) Molecular weight, (b) precipitate, (c) valence, (d) oxidation, (e) efflorescence. 2. Give the general characteristics of acids. Define monobasic, dibasic and tribasic acid, and give an example of each. 3. Give the chemical names and composition of "calomel" and "corrosive sublimate." How may one be distinguished from the other? 4. Give one chemical antidote for each of the following: (a) Nitric acid, (b) oxalic acid, (c) arsenic trioxid, (d) morphine sulphate. 5. Give (a) one chemical test for albumin in urine, and (b) one test for sugar in urine. 6. What is the normal reaction to litmus paper of (a) blood, (b) saliva, (c) succus gastricus, (d) succus entericus, and (e) feces. 7. Give the chemical formula of each of the following: (a) Sulphuric acid, (b) hydrochloric acid,
(d) epsom salt, (c) ammonia water,
tion, (b) calorie, (c) indicanuria, (d)
9. Give the chemical formula and properties of hydrogen peroxid. 10. Complete the following equations: $Na_2CO_3 + HCl =$
$K + H_2O =$ $CO_2 + Ca(OH)_2 =$ $Mg + H_2SO_4 =$
$CuO + 2HNO_3 =$

PHYSIOLOGY

1. Name and locate the glands of the small intestines. 2. (a) Describe the normal pulse, its variations in infancy, youth and old age; (b) How does the pulse rate compare with respiration? 3. Where in the body is each of the following found and what the function of each: pepsin, trypsin, glycogen, ptyalin and synovia? 4. What is meant by the vasomotor nervous system? 5. What is meant by blood-pressure and how estimated? (b) What are some

of the causes altering blood-pressure? (c) How does the weight of the entire amount of blood in the body compare with the weight of the body? 6. Give functions of spinal cord. 7. What is accomplished physiologically by the portal circulation? 8. Describe briefly the functions of the pneumogastric nerve. 9. Through what three main channels is water lost from the body? 10. Describe the effect of strychnin on the central nervous system.

THERAPEUTICS

1. Define chemical incompatibility. Give three illustrations and write a prescription showing it. 2. Define pharmaceutical incompatibility. Give three illustrations and write a prescription showing it. 3. Give physiologic action of glonoinum and indications for its use. 4. Describe the indications for use of carbohydrates. Illustrate their use and name six. 5. Give the therapeutics of arsenous acid; symptoms of arsenical poisoning and antidote. 6. Give the therapeutics of acid hydrocyanic; manifestation of poisoning and antidote. 7. Write a prescription in Latin, without abbreviations, containing four liquid ingredients; state conditions for which it is intended and give directions for its use. 8. Write a prescription in Latin, without abbreviations, containing three ingredients in powder; state conditions for which it is intended and give directions for its use. 9. State briefly the therapeutics of nux vomica. 10. State briefly the therapeutics of thyroid extract and adrenal extract.

MATERIA MEDICA

1. (a) Plumbum—give five preparations. (b) The treatment in case of poisoning. 2. (a) Codein, heroin, dionin, and peronin—from what prepared? Dose of each. (b) To what class of drugs do chloral hydrate, sulphonal, trional, veronal and the bromids belong? Average dose of each. 3. (a) Define tinctures and extracts. (b) What is meant by incompatibility in medicines? Name some incompatibles. 4. Write a prescription containing in pill form iron, quinin, arsenic and strychnin, using the official terms in full. 5. To what class of drugs do camphor, asafetida, valerian, compound spirits of ether, musk and viburnum prunifolium belong? Give the average dose of each. 6. To what class of drugs do acetanilid, antipyrin, phenacetin, quinin, aconite, guaiacol belong. The average dose of each. 7. (a) Name five vegetable astringents. (b) Name five mineral astringents. (c) Name three diuretics. (d) What are expectorants and into what two classes are they divided. Name some of each. 8. Give the composition of black wash, brown mixture and compound cathartic pill. 9. Write a prescription for a child five years old, containing paregoric, subnitrate of bismuth, prepared chalk, using in full the official names. 10. Define materia medica. What is meant by U. S. Pharmacopeia?

PRACTICE

1. Define (a) Kernig's sign, (b) tachycardia, (c) cholecystitis, (d) myxedema, (e) urticaria. 2. Define (a) Grocco's sign, (b) tabes dorsalis, (c) herpes zoster, (d) rubella, (e) hydronephrosis. 3. Differentiate variola and varicella. 4. Cancer and ulcer of the stomach. 5. Spasmodic and membranous croup. 6. Coma of alcohol, uremia and cerebral hemorrhage. 7. Give treatment of acute chorea. 8. Give treatment of chronic nephritis. 9. Give treatment of ulcerative stomatitis. 10. Give diagnosis and treatment of intestinal perforation in typhoid fever.

SURGERY

1. What is trachoma? Give signs and symptoms. 2. Give the definitions of toxemia, septicemia, pyemia. 3. Give strength and dose of solution of cocain for local anesthesia, its indications and dangers. 4. Name the general anesthetics employed in surgical cases. 5. Surgical shock: Give physiology, etiology, symptoms, diagnosis and treatment. 6. Describe a simple manner of testing the hearing and its expression by fractional formula. 7. Give the differential diagnosis between chronic appendicitis and gall-stones. 8. Name some causes, symptoms and treatment of caries. 9. Give the secondary symptoms of acquired syphilis. 10. Describe the operation of thoracotomy (resection of ribs) and give the indications for the same.

OBSTETRICS

1. Describe the pelvis joints and their relation to labor and delivery. 3. What is a corpus luteum? 3. What is the cause of hyperemesis gravidarum and the clinical features and the treatment of the condition? 4. Describe in detail the symptoms of extra-uterine pregnancy. 5. Give the diagnosis and management of a breech presentation. What are the dangers to the child? 6. Describe the application of forceps to the fetal head. 7. How would you manage a case of primary post-partum hemorrhage? 8. How would you treat a case of complete prolapsus uteri? 9. Give the treatment of mastitis. 10. Ophthalmia neonatorum. Give prophylaxis and treatment.

Georgia May Report

Dr. C. T. Nolan, secretary of the Regular Board of Medical Examiners of Georgia, reports the written examinations held at Atlanta and Augusta, May 2-5, 1911. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 80. At the examination held at Atlanta, the total number of candidates examined was 109, of whom 99 passed and 10 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Birmingham Medical College	(1909)	91
University of Alabama	(1910)	94
Atlanta College of Physicians and Surgeons	(1909) (1911)	85.5 80, 80, 80, 81.5, 82, 83, 83, 83, 83, 83, 83, 83.5, 83.5, 83.5, 84, 84, 84.5, 84.5, 84.5, 84.5, 85, 85, 85, 85.5, 86, 86, 86, 86, 86.5, 86.5, 86.5, 87, 87, 87, 88, 88, 89, 89, 89, 91, 92, 92.5.
Atlanta School of Medicine	(1911)	80, 80, 80, 80, 80, 81, 81, 81, 82, 82, 82.5, 83, 84.5, 85, 85, 85, 85, 85, 85, 85, 85, 85.5, 86, 86, 86, 86, 86, 86.5, 86.5, 86.5, 87, 87, 87, 87, 87.5, 88, 88, 89, 89.5, 91.
Kentucky School of Medicine	(1908)	83
Johns Hopkins University	(1907)	87.5, 95.5
Baltimore Medical College	(1905)	84.5
University of Maryland	(1910)	88.5
College of Physicians and Surgeons, Boston	(1910)	88.5
Barnes Medical College	(1900)	80
Medical College of South Carolina	(1906)	85
University of Nashville	(1911)	91
Meharry Medical College	(1911)	80, 81, 86
Chattanooga Medical College	(1905)	80
Non-graduate*		91
FAILED		
Hospital Medical College, Atlanta	(1911)**	
Atlanta School of Medicine	(1911)	76, 76, 77.5, 78.5
Atlanta College of Physicians and Surgeons	(1911)	78.5
Leonard School of Medicine	(1905)	71.5
Meharry Medical College	(1911)	78
Knoxville Medical College	(1908)	66.5
Non-graduate†		68.5

At the examination held at Augusta the total number of candidates examined was 27, of whom 23 passed and 4 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Medical College of Georgia	(1909) (1911)	83 81.5, 82, 83, 83.5, 83.5, 84.5, 84.5, 85, 85, 85.5, 85.5, 86.5, 87.5, 89, 89, 89.5, 90.5, 92, 92.5, 93.5, 94.
Harvard Medical School	(1878)	83.5
FAILED		
Medical College of Georgia	(1911)	75.5, 76, 76, 77

* This applicant will not obtain his license until he receives a diploma from the Atlanta School of Medicine in 1912, for which he has already qualified. He was admitted to the examination by special vote of the Board.

** Expelled from examination for cheating.

† This candidate's application indicated graduation from Meharry Medical College. Word from this school, however, states positively that he was not a graduate.

New Hampshire July Report

Mr. H. C. Morrison, regent of the New Hampshire State Board of Medical Examiners, reports the written examination held at Concord, July 6-7, 1911. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 15, of whom 13 passed and 2 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Medical School of Maine	(1910)	81
Baltimore Medical College	(1911)	81
Boston University	(1911)	84, 87
Tufts College Medical School	(1907) (1910) (1911)	80 80 80
Harvard Medical School	(1902) (1911)	80 80
Dartmouth Medical School	(1910) (1911)	78 81, 83
University of Vermont	(1911)	76
FAILED		
Medical School of Maine	(1877)	64
Laval University, Canada	(1911)	71

New Mexico July Report

Dr. J. A. Massie, secretary of the New Mexico State Board of Health and Medical Examiners, reports that at the meeting held by that board, July 10-11, 1911, 23 candidates were licensed on presentation of satisfactory credentials. The following colleges were represented:

College	Year of Grad.
Denver and Gross College of Medicine	(2, 1909)
Northwestern University Medical School	(1904)
University of Louisville	(1911)
University of Louisiana	(1871)
Tulane University of Louisiana	(1892) (1909)
Baltimore University	(1897) (1903)
University of Maryland	(1909)
University Medical College, Kansas City	(1906)
Missouri Medical College	(1898)
St. Louis College of Physicians and Surgeons	(1897) (2, 1911)
Jefferson Medical College	(1898)
University of Pennsylvania	(1879) (1892) (1895)
Medico-Chirurgical College, Philadelphia	(1901)
Temple University	(1910)
University of Nashville	(1902)
University of the South	(1899)

South Dakota July Report

Dr. L. G. Hill, secretary of the South Dakota Board of Medical Examiners, reports the written examination held at Mitchell, July 12-13, 1911. The number of subjects examined

DISTRIBUTION OF GRAY AND WHITE MATTER: (1) in the bulb; (2) in the pons; (3) in the midbrain; (4) in the cerebrum; (5) in the cerebellum.

BLOOD-VESSELS: (a) To meninges; (b) to pia and brain substance. Circle of Willis and branches. Charcot's "artery of cerebral hemorrhage." Cerebral veins and sinuses.

PHYSIOLOGY OF THE BRAIN

SENSORI-MOTOR AREA: Fissure of Rolando, anterior and posterior central gyri, paracentral lobule, operculum, third frontal gyrus. Leg, arm and head regions. Hemiplegia, monospasm, Jacksonian epilepsy. Muscular sense, parietal lobes. Pressure, pain, temperature, sense.

SPEECH AREAS: Sylvian fissure, third frontal convolution, motor aphasia. First and second temporal convolutions, sensory aphasia. Visual speech area, lower parietal. Right- and left-handed persons.

SIGHT AREA: Occipital lobes, hemianopsia. Two visual centers.

SOUND AREA: First and second temporal convolutions.

PSYCHIC CENTERS: Frontal lobes. "Silent areas."

FUNCTIONS OF CEREBELLUM: Coordination, psychical functions, location of function.

FUNCTIONS OF MEDULLA: Respiratory and circulatory centers.

CEREBRAL TOPOGRAPHY: Fissure of Rolando, fissure of Sylvius, Horsley's method, Krönlein's method, Chiene's method.

REFERENCE BOOKS FOR THE SECOND MONTH

Keen's Surgery, vols. ii and iii.
Bryant and Buck: Surgery.
Ballance: Surgery of the Brain.
Horsley: Brain and Spinal Cord.
Krause: Surgery of the Brain.
Phelps: Injuries of the Brain and Its Membranes.
Starr: Brain Surgery.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

GEORGIA: Regular, Atlanta, October 10. Sec., Dr. C. T. Nolan, Marietta. Homeopathic, Atlanta, October 10. Sec., Dr. R. E. Hinman, 106½ Whitehall Street.

ILLINOIS: Coliseum Annex, Chicago, October 26-28 Sec., Dr. J. A. Egan, Springfield.

KANSAS: National Hotel, Topeka, October 10-12. Sec., Dr. H. A. Dykes, Lebanon.

LOUISIANA: New Orleans, October 19-21. Sec., Dr. A. B. Brown, 108 Baronne Street.

MICHIGAN: Legislative Bldg., Lansing, October 10-12. Sec., Dr B. D. Harison, 504 Washington Arcade, Detroit.

MISSISSIPPI: State Capitol, Jackson, October 10-11. Sec., Dr. S. H. McLean.

NEW JERSEY: The State Capitol, Trenton, October 17-18. Sec., Dr. H. G. Norton, 429 E. State Street.

NEW MEXICO: The Capitol, Santa Fe, October 9-10. Sec., Dr. J. A. Massie.

OKLAHOMA: Muskogee, October 10. Sec., Dr. John W. Duke, Guthrie.

WYOMING: Riverton, October 9-11. Sec., Dr. A. B. Tonkin.

Maryland June Report

Dr. J. McPherson Scott, secretary of the Maryland Board of Medical Examiners, reports the written examination held at Baltimore, June 20, 1911. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 152, of whom 130 passed and 22 failed. Sixteen candidates were licensed through reciprocity, 1 by special examination, and 1 under the exemption clause. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Yale University	(1908)	86
George Washington University	(1911)	75, 81, 84
Howard University	(1910) (1911)	82 80
Johns Hopkins University	(1901) (1910) (1911)	87 81 76, 78, 78, 78, 78, 80, 80, 80, 81, 82, 83, 83, 83, 83, 83, 84, 84, 85, 85, 85, 85, 86, 87, 87, 87, 87, 88, 88, 88, 89, 91, 91, 91, 91, 91.
University of Maryland	(1904) (1909) (1910) (1911)	75 76, 76, 78, 82, 83 83 75, 76, 76, 77, 77, 77, 79, 80, 80, 81, 81, 82, 83, 84, 84, 85, 85, 85, 86, 86, 86, 87, 87, 88, 89, 90, 91.
Baltimore Medical College	(1910) (1911)	81 77, 83, 83, 85, 85, 86, 86, 86, 87, 87, 89, 89, 91.
Maryland Medical College	(1909) (1911)	75 80, 81, 83, 84, 86
College of Physicians and Surgeons, Baltimore	(1911)	81, 81, 83, 83, 84, 85, 85, 86, 86.
Jefferson Medical College	(1906) (1910) (1911)	82 91 78, 82, 84, 85, 87, 89.
University of Pennsylvania	(1910) (1911)	80, 87 80, 83
Woman's Medical College of Pennsylvania	(1911)	78, 79, 79, 82, 83, 84, 86, 87, 90, 91.
Medico-Chirurgical College, Philadelphia	(1911)	75
Temple University, Philadelphia	(1911)	81, 88

FAILED

College	Year Grad.	Per Cent.
Medical College of Georgia	(1909)*	
Coll. of Phys. and Surgs., Baltimore	(1910) (1911)	73 73
University of Maryland	(1905) (1910)* (1911)	69 72, 73
Johns Hopkins University	(1911)	71, 72
Maryland Medical College	(1907)* (1910)* (1910) (1911)	 35, 41, 57 52, 65, 70, 73, 74
Woman's Medical College of Baltimore	(1904)	69
Medico-Chirurgical College, Philadelphia	(1905)	73
University of Pennsylvania	(1910)	72

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Kentucky School of Med.	(1893) (1894)	Dist. Colum. Kentucky
Johns Hopkins University	(1910)	N. Carolina
Maryland Med Coll.	(1902) (1903) (1905) (1908) (1909)	W. Virginia
University of Maryland	(1905) (1907)	Delaware W. Virginia
College of Physicians and Surgeons, Baltimore	(1907)	W. Virginia
Baltimore Medical College	(1897)	Vermont
University of Michigan, Dept. of Med. and Surg.	(1886)	Michigan
Leonard Medical School	(1908)	Georgia
University of Pennsylvania	(1910)	Maine
University of Zurich, Switzerland	(1892)	Illinois

LICENSED BY SPECIAL EXAMINATION AND UNDER EXEMPTION CLAUSE

College	Year of Grad.
College of Physicians and Surgeons, Baltimore	(1886)
University of Palermo, Italy	(1909)

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* Reexamined.

The questions asked were as follows:

ANATOMY

1. Name varieties of cartilage. 2. Describe briefly two varieties named. 3. Describe the clavicle. 4. Describe the hip joint. 5. What arteries supply the heart with blood and where do they originate? 6. Give general description of testicles. 7. Describe the pericardium. 8. What are the parathyroid bodies? 9. Name the twelve pairs of cranial nerves. 10. Name principal muscles of the back.

PATHOLOGY

1. Mention a cause for each of the following conditions: edema of one leg, edema of both legs, edema of one arm, ascites, edema of the lungs, hydrothorax. 2. What is meant by the term compensation as used in heart diseases? By broken compensation? Trace the course of events depending on the latter condition. 3. Mention at least five diseases that are transmitted by insects. Name the carriers and the method by which the infection is introduced. 4. What is a cyst? Mention two forms of cyst that are commonly met with, and explain their causation. What is meant by the term encysted? 5. Describe briefly the gross and microscopic appearances of an atrophic cirrhotic liver. Mention the pathologic changes inherent to this condition. 6. Describe the formation of scar tissue and mention its principal characteristics. 7. What is the Widal reaction? 8. What is an aneurysm? Describe the formation of an aneurysm of the aorta. 9. How would you demonstrate the presence of bacteria in milk? How would you estimate the number in a cubic centimeter of milk? 10. What are the essential lesions of scarlet fever? What means would you use to prevent the spreading of the contagion in this disease?

CHEMISTRY

1. Explain the following terms: (a) Molecular weight, (b) precipitate, (c) valence, (d) oxidation, (e) efflorescence. 2. Give the general characteristics of acids. Define monobasic, dibasic and tribasic acid, and give an example of each. 3. Give the chemical names and composition of "calomel" and "corrosive sublimate." How may one be distinguished from the other? 4. Give one chemical antidote for each of the following: (a) Nitric acid, (b) oxalic acid, (c) arsenic trioxid, (d) morphine sulphate. 5. Give (a) one chemical test for albumin in urine, and (b) one test for sugar in urine. 6. What is the normal reaction to litmus paper of (a) blood, (b) saliva, (c) succus gastricus, (d) succus entericus, and (e) feces. 7. Give the chemical formula of each of the following: (a) Sulphuric acid, (b) hydrochloric acid, (c) potassium permanganate, (d) epsom salt, (e) ammonia water. 8. Define (a) amphoteric reaction, (b) calorie, (c) indicanuria, (d) hypoacidity, (e) hyperacidity. 9. Give the chemical formula and properties of hydrogen peroxid. 10. Complete the following equations: $Na_2CO_3 + HCl =$
$K + H_2O =$ $CO_2 + Ca(OH)_2 =$ $Mg + H_2SO_4 =$
$CuO + 2HNO_3 =$

PHYSIOLOGY

1. Name and locate the glands of the small intestines. 2. (a) Describe the normal pulse, its variations in infancy, youth and old age; (b) How does the pulse rate compare with respiration? 3. Where in the body is each of the following found and what the function of each; pepsin, trypsin, glycogen, ptyalin and synovia? 4. What is meant by the vasomotor nervous system? 5. What is meant by blood-pressure and how estimated? (b) What are some

Medicolegal

Liability of Company for Medical Services Rendered to Injured Employee on President's Promise of Payment

(Scott vs. Monte Cristo Oil & Development Co. (Cal.), 115 Pac. R. 64)

The Court of Appeal, Second District, California, affirms a judgment in favor of a physician for professional services rendered and medicines furnished to an employee of the defendant company, who had been seriously injured, his skull being fractured, necessitating an operation of trephining. The plaintiff had been called by telephone and later told by the president of the company, in the presence of the superintendent, that the company would pay the bills; but the company contended that the evidence failed to show any authority, either express or implied, on the part of the president or superintendent of the corporation to act for it in making such agreement or incuring such liability.

No question of *ultra vires* or the corporation's having exceeded its charter powers, the court says, was involved. The superintendent received his orders and instructions on behalf of the corporation from its president, who instructed him to do all that he could for the boy. There was also evidence to the effect that the plaintiff, after dressing the employee's wounds at the bunkhouse, asked whether they would send him to the hospital as a county charge, or to the private sanatorium, where the hospital charges would be $25 per week.

If the injury to the employee was due to the negligence of the corporation, then, in the absence of contributory negligence on his part, the corporation would be liable to him for these claims and he might recover therefor. Such circumstances would constitute a sufficient consideration for the making of the agreement and raise a presumption that it was in the interest of the corporation to do what it could to reduce its liability for damages on account of such injury.

It could not be said that an agreement of this character, made under such conditions, would not be within the scope of authority vested in one charged with the general power shown to have been exercised by the president of the corporation. The directors did not meet in that county, all of its business there was transacted through its president, and, since he was held out by the corporation as possessing full power to act in its behalf in all matters arising and transacted in that vicinity, then, in the absence of anything to the contrary, the evidence was sufficient to raise a presumption that he was vested with the authority which he purported to exercise in making the agreement. Under the circumstances disclosed by the record, the court deems it but a reasonable inference to conclude that the making of this agreement by the president as such was within the scope of the powers vested in him by the corporation.

Moreover, conceding that the company was not responsible for the injuries received by the employee, and might have refused to assist or care for him in any way, nevertheless it recognized an obligation to do something toward relieving his suffering and assisting him, and did send him to the sanatorium and paid for the services rendered in such transportation, which, however small, constituted some ratification of the acts of its president.

The case was not unlike that of Fraser vs. San Francisco Bridge Company, 103 Cal. 79, where it was held under the circumstances of that case that the moral obligation resting on the defendant to furnish assistance and care to an injured employee, for which the corporation was in no wise responsible, constituted a sufficient consideration for the agreement made by the president of the company to pay a physician for professional services rendered such employee.

The finding in this case to the effect that the injury was received by the employee while performing the duties of his employment found no support in the evidence; but, under the court's view of the case, the error was not prejudicial and should be disregarded as immaterial.

Admissibility of Testimony in Case of Examination of Patient Through Interpreter

(Salminen vs. Ross (U. S.), 185 Fed. R. 997)

A United States Circuit Court, in Massachusetts, holds that in a personal injury case the testimony of a physician who examined the plaintiff through a companion who acted as an interpreter for the physician was not objectionable as mere hearsay, where, so far as the testimony of the physician included subjective symptoms and a history of the case communicated to him through the interpreter, that was merely testimony given by the physician as the reason for his conclusion, and the testimony was not admitted to prove the truth of the statement, but only to form the basis for an expert opinion. Whether the statements were derived directly from the patient or indirectly through an interpreter, they were insufficient to show the plaintiff's condition as a matter of fact.

Liability for Death Made Possible by Prior Surgical Operation

(Louisville & Nashville Railroad Co. vs. Chamblee (Ala.), 54 So. R. 681.)

The Supreme Court of Alabama, in affirming a judgment against the railroad company for damages for the death of a man from strangulation of the bowels, says that there was evidence tending to show that the handling of the man by the company's watchman caused the parting of the casing of the bowels at a place or places where previously a surgical operation had been performed. If the violent treatment alleged to have been received by the man had the effect to cause his death, or accelerate his dissolution as a consequence of the earlier surgical operation, the company, if shown otherwise to be liable, could not claim exemption from the result of its employee's (watchman's) acts in the course of his service to it.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Medical Sciences, Philadelphia

September

1 *Is There Specific Treatment for Diabetes Mellitus? H. Sewall, Denver.
2 *Passing Leakage of Pulmonary Valve. R. D. Rudolf, Toronto, Canada.
3 *Auscultatory Method of Determining Blood-Pressure. E. H. Goodman and A. A. Howell, Philadelphia.
4 *Diffuse Selective Sclerosis of Superficial Veins. H. Brooks, New York.
5 Retrobulbar Neuritis as Exact Diagnostic Sign of Certain Tumors and Abscesses in Frontal Lobes. F. Kennedy, New York.
6 Surgical Treatment of Nephritis. M. B. Miller, Philadelphia.
7 *Quantitative Determination of Functional Renal Sufficiency by Duboscq Colorimeter; Indigocarmin vs. Phenol-Sulphonephthalein. B. A. Thomas, Philadelphia.
8 *Actinomycosis in Norway: Etiology, Modes of Infection and Treatment. F. Harbitz and N. B. Grondahl.
9 *Embryos of Trichinella Spiralis in Blood of Patients Suffering from Trichiniasis. A. R. Lamb, New York.
10 *Bacterin Treatment of Septic Rhinitis of Scarlet Fever; Report of One Hundred Cases. J. A. Kolmer, Philadelphia, and P. G. Weston, Warren, Pa.
11 *Chronic Pneumonia (Including Two Cases of Syphilis of the Lung). L. S. Milne, New York.

1. Abstracted in The Journal, June 17, 1911, p. 1849.

2. **Passing Leakage of Pulmonary Valve.**—Three cases are reported by Rudolf in which an evident mitral lesion so raised the pulmonary artery blood-pressure that that vessel and along with it the pulmonary orifice dilated and a murmur occurred, which came and went in two of them over a period of years. These three cases are examples of the so-called Graham Steell murmur. In two other cases cited no such cause seemed to exist, and probably the leakage was more due to relaxed tissues about the pulmonary orifice than to any marked increase in the blood-pressure of the pulmonary artery. A pulmonary systolic murmur, the commonest of all functional bruits, probably depends on a dilatation of the pulmonary artery, and in most cases tends to disappear. When, however, the dilatation involves the pul-

in was 13: total number of question asked, 100; percentage required to pass, 75. The total number of candidates examined was 26, of whom 24 passed and 2 failed. The following colleges were represented:

College	Year Grad.	Total No. Examined.
PASSED		
Rush Medical College	(1910)	3
Hannemann Medical Coll. and Hospital, Chicago	(1909)	1
Northwestern University Med. School	(1905) (1909)	2
Coll. of P. and S., Chicago	(1909) (1910) (2, 1911)	4
Chicago Homeopathic College	(1904)	1
University of Iowa College of Medicine	(1911)	1
Drake University	(1902)	1
Univ. of Mich., Dept. of Med. and Surg.	(1910)	1
Grand Rapids Medical College	(1906)	1
University of Minnesota, College of Medicine	(1909)	2
Creighton Medical College	(1907) (2, 1910) (2, 1911)	5
University of Nebraska	(1911)	1
University of Toronto, Ontario	(1908)	1
FAILED		
Bennett Medical College	(1911)	1
Bellevue Hospital Medical College	(1892)	1

Rhode Island July Report

Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, reports the written examination held at Providence, July 6-7, 1911. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 80. The total number of candidates examined was 12, of whom 8 passed and 4 failed. The following colleges were represented:

College	Year Grad.	Per Cent
PASSED		
Medical School of Maine	(1911)	93
College of Physicians and Surgeons, Baltimore	(1911)	88.1
Baltimore Medical College	(1909)	83.4
Harvard Medical School	(1910) 89.9; (1911) 81.1, 87.4, 92.4	
Long Island College Hospital	(1911)	84 2
FAILED		
University of Maryland	(1911)	75.7
Tufts College Medical School	(1911)	77 4
University of Vermont	(1910)	75.6
Laval University, Quebec	(1911)	68 6

Vermont July Report

Dr. W. Scott Nay, secretary of the Vermont State Board of Medical Examiners, reports the written examination held at Burlington, July 11-13, 1911. The number of subjects examined in was 12; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 41, all of whom passed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Gross Medical College	(1902)	77.9
Harvard Medical School	(1898)	76.3
Tufts College Medical School	(1910)	79.1
Eclectic Medical College of New York	(1911)	78 6. 82.6
Columbia University, Coll. of P. and S.	(1911)	85
University of Pennsylvania	(1910)	83.8
University of Vermont	(1900) 55.5* (1908) 81.8; (1909) 77 1, 78.5; (1910) 78.6, 83.8, 86.5, 92 6; (1911) 76.9, 78.4, 77.6, 78.7, 80.3, 81.8, 82.1, 82.2, 82.6, 83.1, 83.1, 83.2, 83.4, 83.8, 83.9, 84.7, 85.2, 86.1, 87.6, 87.8, 88.2, 88.3, 88.5, 88 7, 92.3.	
University of Rome, Italy	(1898)	79.4

* By vote of board, a certificate was issued to this candidate for reasons satisfactory to the board.

Corrections in State Board Reports

Dr. G. M. Williamson, secretary of the North Dakota State Board of Medical Examiners, informs us that the graduate of the Keokuk Medical College, College of Physicians and Surgeons, 1906, examined July 5-7, 1911, received an average of 84.2 per cent. instead of 80 per cent. as was previously reported.

Correspondence from Dr. G. H. Sumner, secretary of the Iowa State Board of Medical Examiners, indicates that one of the candidates who failed at the examination held by that board, June 5-7, 1911, was a graduate of the Maryland Medical College, 1908, instead of the Baltimore Medical College as was previously reported.

The two reports referred to were published in The Journal, Sept. 16, 1911, on pages 1001 and 1002.

Book Notices

A System of Medicine. By Many Writers. Edited by Sir Clifford Allbutt, K.C.B., M.A., M.D., Regius Professor of Physic in the University of Cambridge and Humphry Davy Rolleston, M.A., M.D., F.R.C.P., Senior Physician, St. George's Hospital, Cambridge. Volume VIII, Diseases of the Brain and Mental Diseases. Pp. 1070, with illustrations. Volume IX. Diseases of the Skin With General Index. Pp. 869, with 170 illustrations. Cloth. Price, $6 net per volume. New York: Macmillan & Co., 1911.

In preparing the various volumes in this system, it has been the aim of the authors to publish one volume each year. In the main, this scheme has been carried out as planned, although on two occasions, two volumes have appeared in the same year. Volume I appeared in 1905 and the succeeding volumes have been published at intervals since, and were reviewed in The Journal. While this method of publishing may not appeal to some readers, it nevertheless possesses some advantages in that it is primarily historical. Each volume is complete up to the time of publication. It is not necessary at this time to mention the good features of the previous volumes of this work, but it may not be amiss to emphasize the value of the many references to current literature appended to each article. American works on medicine are woefully deficient in this respect.

Volume VIII, now before us, is devoted to the diseases of the brain and mental diseases. In the first edition the eighth volume also contained a discussion of the diseases of the skin, which are considered in Volume IX of the new edition. The most notable change in this portion of the work has been made in the chapter on meningitis, to which 66 pages are devoted. The author has not failed to include every known type, even that accompanying rheumatism and mumps. The same author contributes a very excellent article on acute polio-encephalitis, in which he subscribes to the current views held as to the etiology of the disease. Other new chapters are those on "Recurrent Paralysis," by J. Mitchell Clarke, and "Apraxia and Agnosia," by J. Collier. Naturally, many chapters have been revised or rewritten to keep pace with the great progress which has been made in neuriatry. Neither Freud nor psycho-analysis is mentioned. Mackenzie in his article on "Migraine" does not agree with Gould in his refraction error theory. He regards the disease as hereditary. A most commendable chapter is the one by Nicolson on "Criminal Lunacy." It bristles with valuable and instructive statistics and from every point of view is one of the best contributions on this subject. A short chapter on insanity and surgical operations by Dent presents this topic well.

Volume IX, the concluding volume, contains 750 pages on the "Diseases of the Skin" and the general index. The text is further elucidated by 170 illustrations and 2 plates, but unfortunately black-and-white pictures are of little value to depict skin lesions. Among the contributors to this volume are H. G. Adamson, H. R. Crocker, T. C. Fox, J. Galloway, J. Hutchinson, J. M. H. MacLeod and J. H. Sequeira. A very comprehensive chapter on the bacteriology of the skin introduces the subject of dermatology, which is presented clearly, fully and instructively. Each chapter is essentially a review of what is known to-day and the references cited at the end of each part are exceedingly valuable, giving the reader an opportunity to search further, if he so desires. Many chapters have been entirely rewritten, as for instance, the chapters on eczema, tumors, tuberculosis and pruritus. New ones have been added on such subjects as blastomycosis, sporotrichosis and calcareous deposits. On cursory examination, a most favorable impression is conveyed as to the scope and thoroughness of the work. Differences of opinion are not subject to review.

Tuberculosis Hospital and Sanatorium Construction. Written for the National Association for the Study and Prevention of Tuberculosis. By Thomas Spees Carrington, M.D., Assistant Secretary. Paper. Pp. 164. New York: 105 East 22d Street, 1911.

This book should be of assistance to those building sanatoriums, or to those adapting cottages for the use of the tuberculous. Excellent illustrations are given and detailed plans with measurements and descriptions, taking up various styles of architecture from simple to complex. Many of the well-known institutions of the country are here diagrammed.

Medicolegal

Liability of Company for Medical Services Rendered to Injured Employee on President's Promise of Payment

(Scott vs. Monte Cristo Oil & Development Co. (Cal.), 115 Pac. R. 64)

The Court of Appeal, Second District, California, affirms a judgment in favor of a physician for professional services rendered and medicines furnished to an employee of the defendant company, who had been seriously injured, his skull being fractured, necessitating an operation of trephining. The plaintiff had been called by telephone and later told by the president of the company, in the presence of the superintendent, that the company would pay the bills; but the company contended that the evidence failed to show any authority, either express or implied, on the part of the president or superintendent of the corporation to act for it in making such agreement or incuring such liability.

No question of *ultra vires* or the corporation's having exceeded its charter powers, the court says, was involved. The superintendent received his orders and instructions on behalf of the corporation from its president, who instructed him to do all that he could for the boy. There was also evidence to the effect that the plaintiff, after dressing the employee's wounds at the bunkhouse, asked whether they would send him to the hospital as a county charge, or to the private sanatorium, where the hospital charges would be $25 per week.

If the injury to the employee was due to the negligence of the corporation, then, in the absence of contributory negligence on his part, the corporation would be liable to him for these claims and he might recover therefor. Such circumstances would constitute a sufficient consideration for the making of the agreement and raise a presumption that it was in the interest of the corporation to do what it could to reduce its liability for damages on account of such injury.

It could not be said that an agreement of this character, made under such conditions, would not be within the scope of authority vested in one charged with the general power shown to have been exercised by the president of the corporation. The directors did not meet in that county, all of its business there was transacted through its president, and, since he was held out by the corporation as possessing full power to act in its behalf in all matters arising and transacted in that vicinity, then, in the absence of anything to the contrary, the evidence was sufficient to raise a presumption that he was vested with the authority which he purported to exercise in making the agreement. Under the circumstances disclosed by the record, the court deems it but a reasonable inference to conclude that the making of this agreement by the president as such was within the scope of the powers vested in him by the corporation.

Moreover, conceding that the company was not responsible for the injuries received by the employee, and might have refused to assist or care for him in any way, nevertheless it recognized an obligation to do something toward relieving his suffering and assisting him, and did send him to the sanatorium and paid for the services rendered in such transportation, which, however small, constituted some ratification of the acts of its president.

The case was not unlike that of Fraser vs. San Francisco Bridge Company, 103 Cal. 79, where it was held under the circumstances of that case that the moral obligation resting on the defendant to furnish assistance and care to an injured employee, for which the corporation was in no wise responsible, constituted a sufficient consideration for the agreement made by the president of the company to pay a physician for professional services rendered such employee.

The finding in this case to the effect that the injury was received by the employee while performing the duties of his employment found no support in the evidence; but, under the court's view of the case, the error was not prejudicial and should be disregarded as immaterial.

Admissibility of Testimony in Case of Examination of Patient Through Interpreter

(Salminen vs. Ross (U. S.), 185 Fed. R. 997)

A United States Circuit Court, in Massachusetts, holds that in a personal injury case the testimony of a physician who examined the plaintiff through a companion who acted as an interpreter for the physician was not objectionable as mere hearsay, where, so far as the testimony of the physician included subjective symptoms and a history of the case communicated to him through the interpreter, that was merely testimony given by the physician as the reason for his conclusion, and the testimony was not admitted to prove the truth of the statement, but only to form the basis for an expert opinion. Whether the statements were derived directly from the patient or indirectly through an interpreter, they were insufficient to show the plaintiff's condition as a matter of fact.

Liability for Death Made Possible by Prior Surgical Operation

(Louisville & Nashville Railroad Co. vs. Chamblee (Ala.), 54 So. R. 681.)

The Supreme Court of Alabama, in affirming a judgment against the railroad company for damages for the death of a man from strangulation of the bowels, says that there was evidence tending to show that the handling of the man by the company's watchman caused the parting of the casing of the bowels at a place or places where previously a surgical operation had been performed. If the violent treatment alleged to have been received by the man had the effect to cause his death, or accelerate his dissolution as a consequence of the earlier surgical operation, the company, if shown otherwise to be liable, could not claim exemption from the result of its employee's (watchman's) acts in the course of his service to it.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Medical Sciences, Philadelphia

September

1 *Is There Specific Treatment for Diabetes Mellitus? H. Sewall, Denver.
2 *Passing Leakage of Pulmonary Valve. R. D. Rudolf, Toronto, Canada.
3 *Auscultatory Method of Determining Blood-Pressure. E. H. Goodman and A. A. Howell, Philadelphia.
4 *Diffuse Selective Sclerosis of Superficial Veins. H. Brooks, New York.
5 Retrobulbar Neuritis as Exact Diagnostic Sign of Certain Tumors and Abscesses in Frontal Lobes. F. Kennedy, New York.
6 Surgical Treatment of Nephritis. M. B. Miller, Philadelphia.
7 *Quantitative Determination of Functional Renal Sufficiency by Duboscq Colorimeter; Indigocarmin vs. Phenol-Sulphonephthalein. B. A. Thomas, Philadelphia.
8 *Actinomycosis in Norway: Etiology, Modes of Infection and Treatment. F. Harbitz and N. B. Grondahl.
9 *Embryos of Trichinella Spiralis in Blood of Patients Suffering from Trichiniasis. A. R. Lamb, New York.
10 *Bacterin Treatment of Septic Rhinitis of Scarlet Fever; Report of One Hundred Cases. J. A. Kolmer, Philadelphia, and P. G. Weston, Warren, Pa.
11 *Chronic Pneumonia (Including Two Cases of Syphilis of the Lung). L. S. Milne, New York.

1. Abstracted in The Journal, June 17, 1911, p. 1849.

2. **Passing Leakage of Pulmonary Valve.**—Three cases are reported by Rudolf in which an evident mitral lesion so raised the pulmonary artery blood-pressure that that vessel and along with it the pulmonary orifice dilated and a murmur occurred, which came and went in two of them over a period of years. These three cases are examples of the so-called Graham Steell murmur. In two other cases cited no such cause seemed to exist, and probably the leakage was more due to relaxed tissues about the pulmonary orifice than to any marked increase in the blood-pressure of the pulmonary artery. A pulmonary systolic murmur, the commonest of all functional bruits, probably depends on a dilatation of the pulmonary artery, and in most cases tends to disappear. When, however, the dilatation involves the pul-

monary orifice so that a diastolic leakage occurs the condition is of more import, although even yet it may completely clear up. From the dilatable character of the pulmonary orifice, and on the other hand the resistant nature of the aortic one, Rudolf regards it as probable that most of the diastolic murmurs which come and go, and which are usually reported to be aortic in origin, are due to passing leakage at the pulmonary valve.

3. **Determining Blood-Pressure.**—Special attention was given by Goodman and Howell to sequence readings and to their interpretation, and it is to this aspect alone that the present paper is dedicated. They interpret variations in sequence readings by assuming that each phase has a physiologic factor in its production in addition to the anatomic unit, and though these hypotheses have not the firm basis of an experimental control, yet clinical experience has lent some weight to their probable correctness. The first phase, or tone phase, serves principally as an index as to how far the pressure must fall before the blood-current can be sustained past the obstruction in the vessel caused by the cuff, at a sufficient velocity and for a sufficient duration to produce the murmur. Hence the information it affords is of negative rather than of positive value. In other words, its normal duration is of no value, but an increase or decrease in length is of importance. The second, or the murmur phase, seems to be especially dependent on cardiac effectiveness, for it is in this phase alone that the individual sounds possess a distinct element of duration, and this protracted energy, for so it must be regarded, must evidently come from the heart. The third phase, or second tone phase, depends not alone on cardiac efficiency, but also on the character of the vessel wall. The more sclerotic the vessel and the greater the cardiac hypertrophy, the more favorable are the conditions for the production of a clear tone. As the fourth phase, or dull tone, may be produced by a resilient vessel receiving a normal pulse shock, or by a rigid vessel receiving a weakened shock, its interpretation is more difficult, but its study quite as interesting.

If these assumptions are correct, it is quite evident that increases in the second and third phases are dependent on cardiac strength and circulatory efficiency, while the first and the fourth phases suffer increase when there is cardiac weakness. Furthermore, in dealing with increases or decreases in any particular phase, it is important to know at the expense of what adjacent phase this has occurred. It is apparent that an increase in the third phase, for example, at the expense of the second, has not the same significance as an increase of this phase at the expense of the fourth. In the first instance the unit of cardiac strength, obtained by adding the lengths of the second and third phases, has not been materially changed, while in the latter it has been increased. For this reason the authors recommend that the sum of the second and third phases be compared with the sum of the first and fourth phases, in order to determine whether the elements of force or those of weakness are predominating.

4. **Sclerosis of Superficial Veins.**—The chief features presented by Brooks' case were, a diffuse, isolated sclerosis of the superficial veins of the inner side of the thigh with phlebitis and thrombosis of one. This condition is remarkable in that the sclerosis was apparently limited to the superficial veins, and was relatively much more marked in them than in the other veins or arteries. Although the coagulation time of the blood was considerably reduced the chief factor back of it was the markedly altered, and in this instance clearly sclerotic alteration in the walls of the veins. With no other evidence at hand, and the case was most carefully studied in all its aspects, Brooks believes that this selective venous sclerosis was induced by syphilitic infection either congenital or early contracted.

7. **Functional Renal Sufficiency.**—Quantitative colorimetric determinations of indigocarmin and phenolsulphonephthalein Thomas believes are of very great value in the estimation of the total renal function, particularly in such conditions as nephritis and damaged kidneys, incident to prostatic enlargement, etc., causing poor drainage and resulting in vis a tergo pressure. These substances routinely employed by the surgeon as indicators for or against surgical intervention, particularly in contemplated prostatectomies, but likewise in other fields of surgery, will aid materially in the reduction of operative mortality. Although, he says, each substance has its particular advantages and indications as a test, indigocarmin, at least for the purposes of the surgeon, especially in the diagnosis and prognosis of unilateral renal disease, seems just as useful and possibly more practical than the new drug phenolsulphonephthalein. Phenolsulphonephthalein in many respects is an ideal substance for employment in studying the pathology and physiology of the kidney. It may possibly be more sensitive than indigocarmin, in fact, may prove to be too delicate. On the other hand, the technic of the test is extremely simple and may be employed painlessly. Preference should be extended to this drug over indigocarmin whenever it is desirable to learn the total or combined efficiency of both kidneys.

8. **Actinomycosis in Norway.**—The authors' series includes 87 cases, and the lesions were distributed as follows: 45 per cent. of the cases occurred on the neck and face (all cured); 23 per cent. in the thorax (all dead); 30 per cent. in the abdomen (19 dead, 5 cured); 3 per cent. on the skin (1 dead, 1 cured). Fifty-six cases occurred in men, 27 in women, and in 7 the sex was not given. Two occurred in the first decade (boys); 12 occurred in the second decade (10 men, 2 women); 26 occurred in the third decade (17 men, 9 women); 16 occurred in the fourth decade (10 men, 6 women); 13 occurred in the fifth decade (8 men, 5 women); 7 occurred in the sixth decade (4 men, 3 women); 3 occurred in the eighth decade (3 men). Among the 39 cervico-facial cases, in 15 the lesions were located on the cheek, especially on the maxilla, the forehead and the parotid region; in 20 they were on the mandibular or on the submental region and in 3 they were located farther down the neck, and 1 tumor was on the tongue. The infection atrium was in every instance the mucous membrane of the oral cavity, and often the part covering the gums. There was no evidence of the fungi having entered by carious teeth. All the 39 patients recovered.

In the thoracic group the primary lesion was always in the lungs, and, as a rule, in the lower lobes. The disease simulated an atypical bronchopneumonia or pulmonary tuberculosis, with fever, dyspnea, cough and a rusty, tenacious sputum, which, as a rule, contained the characteristic sulphur granules. Everyone of these cases terminated fatally. The average duration was one to one and one-half years. One patient lived on for eight years. The primary lesion of the abdominal cases was some part of the alimentary tract, most often the vermiform appendix. There were no primary lesions in the rectum, bladder or genital organs, although gravitation abscesses did extend into these organs. The disease occurred as localized abscesses most often in the ileo-cecal region. These spread both extra- and intra-peritoneally. Liver abscesses were frequently found. The average duration of the fatal cases was one to two years. In the 2 patients where the disease was primary in the skin, 1 had a localized abscess on the arm which soon healed. The other had a phlegmonous infection of the leg, that originated from an ulcer that started during the harvest. This man's leg was amputated, but he died.

9. **Embryos of Trichinella Spiralis in Blood.**—The examination of the blood sediment for the embryos of *Trichinella spiralis* suggesting trichiniasis. The earliest time at which the Lamb believes to be a valuable means of diagnosis in cases embryos may be found in the blood is on the sixth or seventh day after infection. The latest date is not so accurately fixed. While the parasites have not been found later than the twenty-seventh day after infection in guinea-pigs, or later than the twenty-second day after the onset of symptoms in man, there is some ground for the belief that they may occasionally be recovered in the fifth or possibly the sixth week after injection. Lamb has found this method of greatest value in those cases where the diagnosis is doubtful and especially where the patient refuses permission to excise a piece of muscle or where the muscle findings are negative.

CURRENT MEDICAL LITERATURE

10. **Septic Rhinitis of Scarlet Fever.**—Kolmer and Weston regard the nasal discharges as of primary importance in the etiology of the return case of scarlet fever, because the true rhinitis of scarlet fever is septic in character, distinctly infectious in itself, and probably harbors the contagium of scarlet fever. They found the bacterin treatment of cases of septic rhinitis to be more satisfactory than the usual treatment. It shortens materially the time required for cure and decidedly aids in decreasing the number of return cases.

11. **Chronic Pneumonia.**—A very exhaustive study of ten cases of chronic pneumonia leads Milne to conclude, (1) that they are a possible sequence of acute pneumonia; (2) that they are particularly found in subjects debilitated by some intercurrent condition, but that no single factor such as cardiac conditions, nephritis, arteriosclerosis, alcoholism, tuberculosis or syphilis is responsible for its production. The onset is extremely irregular in type, and may be acutely febrile, simulating the usual commencement of a croupous pneumonia in subjects of the same age or typical signs of pneumonic consolidation may be evident without there having been any especial initial pneumonic symptoms or there may even be no increase in temperature or abnormality of the pulse and respiration rates. The prognosis in such conditions is bad, as not only is death very frequent from cardiac insufficiency, but complications, such as empyema, pericarditis, peritonitis, meningitis, etc., are extremely frequent, and what is very important that any of these conditions may supervene even after long periods of apparent quiescence of the pneumonia—seven out of the ten cases were complicated in this way, an infinitely higher proportion than occurred in the rest of the pneumonia series; forty-one out of ninety-five cases of lobar pneumonia, including nine which had become organized, and ten out of sixty-four cases of bronchopneumonia, including one which was organized, were complicated. Such conditions, Milne believes, may undoubtedly be recovered from as far as symptoms are concerned, yet maintaining physical signs of pneumonic consolidation. It is just such cases which are apt to be mistaken for tuberculosis or possibly syphilitic fibrosis. In this connection it is also possible that the development of bronchiectasis or subsequent tuberculous infection may further complicate the case. Collapse, tubercle, infarction and syphilis of the lung, etc., are distinguishable from chronic pneumonia. Once organization processes in the lung have advanced to any marked extent one cannot imagine any complete restoration, as some cicatrization must be permanent.

Louisville Monthly Journal of Medicine and Surgery

September

12 Head Injuries: Report of Cases. A. M. Vance, Louisville.
13 Physician Twenty-Five Years Ago and Now. C. W. Kavanaugh, Lawrenceburg, Ky.
14 Arsenic in Malaria. R. Powell, St. Louis, Mo.
15 European Travel Notes. A. Schachner, Louisville, Ky.
16 Postoperative Hernia with Resection of Intestine. L. Frank, Louisville.
17 Cesarean Section by High Incision. Pylorectomy: Report of Cases. L. Frank, Louisville.
18 Gunshot Wound of Arm. Sarcoma of Kidney: Report of Cases. W. O. Roberts, Louisville.
19 Tuberculosis of Kidney. B. C. Frazier, Louisville.
20 Importance of Certified or Pasteurized Butter. A. F. Hess, New York.

Virginia Medical Semi-Monthly, Richmond

September

21 Visceroptosis. J. N. Baker, Montgomery, Ala.
22 Rôle of Tonsils in Systemic Disease. H. T. Aynesworth, Waco, Texas.
23 Diagnosis of Incipient Tuberculosis. J. J. Lloyd, Lynchburg, Va
24 Local Treatment of Gonorrheic Infections. M. C. Sycle, Richmond.
25 Indications for Gastro-Enterostomy. D. W. Prentiss, Washington, D. C.
26 Some Common Errors in Operative Technic. R. P. Bell, Staunton, Va.
27 *Stab Wound of Heart, Drainage of Pericardium, Recovery. H. S. Lott, Winston-Salem, N. C.

27. **Stab Wound of Heart.**—In the case cited by Lott the wound was found to be about midway on a line drawn just a little upward from the left nipple to the sternum. A free incision was made, exposing the fourth costal cartilage, which had been cut through transversely, the knife having entered the structures beyond, and in such direction as to indicate some injury to the heart. On the removal of this cartilage in two sections and the introduction of the fingers into the wound, blood-clots were found, as also a ragged puncture through pleura, lung structure, pericardium and into the heart muscle, for a depth quite sufficient to be easily perceptible to the touch, although not penetrating into its cavity, and situated at a point in the upper third of the ventricle quite near to the line of division between this and the auricular cavity. The wound in the muscular wall of the heart was not of such depth as to justify closure with stitches; nor did Lott feel inclined to close the pericardium and other supervening structures, thus making a sealed wound. But considering the infected weapon, the deep puncture and the unavoidable trauma from blood-clots and manipulation, he determined to drain both pericardial and pleural cavities. In order to accomplish this, two pieces of rubber tubing were used, each one of them split open on one side for its entire length, and its lumen filled with a soft gauze wick. One of these tubes, the longer one, was passed through the rent in the pericardium and well down to the limit of the apex of the heart; and the other one, not quite so long, through the rent in the pleura and lung tissue and well down into the pleural cavity, posteriorly. These were fixed in the usual manner with safety pins, and an ample gauze and cotton dressing made secure with a many-tailed bandage. Hypodermics of morphia were given to relieve pain and secure quiet, and during this first forty-eight hours the clinical picture was a most interesting one. The heart was very erratic, the pulse going all gaits, ranging from 100 to 140. After forty-eight hours the tubes were drawn up for about 1 inch and cut off, and this was continued each day until they were out of the cavities. Drainage during this time was very free. The dressings were not disturbed. This drainage lessened each day, and by the time that the tube was withdrawn from the pericardial cavity, had practically ceased, and from that source there was no further trouble. The heart's action became more regular, but its rate was accelerated, ranging throughout this time from 100 to 112; and finally, when he left the hospital about five weeks from the time of his entrance, the range of the pulse was from 80 to 90 in the twenty-four hours.

Buffalo Medical Journal

September

28 Conservative Ophthalmology. F. P. Lewis, Buffalo.
29 Three Years with Army of Potomac. W. W. Potter, Buffalo.
30 Heterophoria Superstition. G. M. Gould, Ithaca, N. Y.

Journal of Cutaneous Diseases, New York

September

31 *Dermatitis Vegetans in Infants. G. W. Wende and H. K. De Groat, Buffalo
32 Differential Study of Multiple Benign Cystic Epithelioma and Adenoma Sebaceum in the Negro. R. L Sutton, Kansas City

31. **Dermatitis Vegetans in Infants.**—The authors emphasize the occurrence in infancy of a clinically well-defined and charactersitic group of cases of dermatitis vegetans. They report four cases and review six others. All occurred in healthy infants under 1 year of age. Six developed in the course of eczema and four independently of any other dermatosis. In six patients the lesions were limited to the face with the exception of a few scattered lesions on the scalp; in the other four, the wrists, arms and legs were involved. The initial lesion was a papulo-pustule. The pustule soon dried up or ruptured and discharged its contents, and on the reddened base there developed the characteristic secondary lesion of the disease. This consisted of vegetating masses varying from split-pea to walnut size or larger, and elevated from ¼ to 1 inch above the skin surface. Some of the lesions developed from the base of a single pustule, others by the coalescence of several. The individual lesions often contained miliary pustules, especially near their borders, exuded a purulent fluid on pressure, and when the crusts or scales covering them were removed presented a warty appearance. There was no constitutional reaction and disturbance of sensation was apparently very slight. A gratifying feature was the benign course of the disease, all cases yielding to antiseptic treatment in from two to eight weeks.

Medical Fortnightly, St. Louis

September 11

33 Emergency Surgery. G. W. Broome, St. Louis.
34 In the Twilight. C. E. Warren, North Easton, Mass.
35 Intestinal Lesions Caused by Abdominal Contusions. Enderlen, Wurzburg, Germany.

New Orleans Medical and Surgical Journal

September

36 *Etiology of Pellagra. C. Thorington, Montgomery, Ala.
37 Three Cases of Animal Parasites in Urine. W. Krauss, Memphis, Tenn.
38 Salvarsan and Syphilis. G. J. Winthrop and H. P. Cole, Mobile, Ala.
39 *Lingual Tonsil. H. Dupuy, New Orleans.
40 Large Submucous Fibromyoma Complicating Pregnancy: Report of Case. C. W. Groetsch, New Orleans.
41 Complete Prolapse of Funis, Treatment. A. C. King, New Orleans.
42 Relative Immunity of Negro to Alcoholism. G. F. Patton, New Orleans.

36. **Etiology of Pellagra.**—Thorington suggests the mosquito as a probable factor in the conveyance of pellagra and points to the similarity in symptoms between pellagra and malaria.

39. **Lingual Tonsil.**—Dupuy emphasizes that there is such a structure as the lingual tonsil, which, while a diminutive lymphoid deposit, is quite frequently the source of considerable distress, and that proper remedial measures afford the most gratifying relief. The enlargement of the lingual tonsil is seldom of sufficient dimensions to make it feasible for excision, and the profuse, and perhaps dangerous, bleeding renders it inadvisable to resort to a cutting operation as a routine measure. The galvano-cautery, properly applied, will reduce the ordinary hypertrophies, and is equally effective in destroying the lingual varix. In the acute and subacute inflammations, the silver salts, iodized phenol and menthol, in spray form, are of undoubted efficiency.

Denver Medical Times and Utah Medical Journal

September

43 Pleurisy and Tuberculosis. W. F. Waugh, Chicago.
44 Cancer of Penis. Schools of Instruction for Sanitarians. W. P. Munn.
45 *Aseptic Hospital Floor. C. J. Fox, Washington, D. C.
46 Utah's Water-Supply. F. E. Clark, Logan, Utah.
47 The Crime of Love. G. H. Bogart, Terre Haute, Ind.

45. **Aseptic Hospital Floor.**—Fox says that, perhaps, hospital architects have not attached enough importance to the subject of hospital floors. In spite of the present-day system of ventilation, the isolation of kitchens, laundries and closets, the removal of all dirt of every character, the frequent use of disinfectants and the sterilizing of all instruments, the hospital cannot be sanitary unless it is provided with an aseptic floor. The wooden floor so common in many of our finest hospitals is not only quite out of keeping with the sanitary arrangements of the rest of the building, but it is a positive danger, from the fact that it becomes a harbor for microorganisms and infectious growths of all kinds. Wood, terrazzo, lead, tile, marble, glass, rubber and monolithic materials have been used, but none of these has proven entirely satisfactory. After examining all of the proposed floor materials, it must be admitted that the best so far discovered is the floor of baked clay tile, which consists principally of silicate of alumina, and is an inorganic substance which attains a greater hardness than almost any natural stone. It is so hard that a sharp steel point cannot scratch it, but merely makes a mark on it like a lead pencil. As a silicate of aluminum, it cannot be attacked by any acid, with the exception of hydrofluoric, which there is no occasion to use. As vegetable growths require nothing in the way of clay for their development, the clay is absolutely sterile as far as they are concerned. There has been much said about the cracks, or joints between the tile, but these are completely filled with pure cement grouted in hard so that the joint is but a joint in appearance and not in the sense of the open or unfilled joints of the wooden or rubber tile floor. Baked clay tiles, even in the joints between them, are nonabsorbent, germ-proof, fire-proof, impossible to stain, easy to keep clean, pleasing to the eye and very durable. While the "perfect hospital floor" may still be a thing of the future, the nearest approach to this goal of perfection has been reached by the clay tile, the sanitary and durable qualities of which are as yet unsurpassed by any flooring material.

Journal of Ophthalmology and Oto-Laryngology, Chicago

September

48 Improved Method for Extraction of Immature Cataractous Lens. H. E. Smith, Norwich, N. Y.
49 Hypertrophic Rhinitis in Southwestern States. W. B. Newton, Muskogee, Okla.

Cleveland Medical Journal

August

50 *Four Cases of Von Recklinghausen's Disease. H. N. Cole and H. K. Shawan, Cleveland.
51 Appendicitis During Pregnancy and Labor. A. H. Bill, Cleveland.
52 Activity of City of Charlottenburg, Germany, in Reduction of Infant Mortality. H. J. Gerstenberger, Cleveland.
53 Case of Vaginal Hemorrhage in New-Born. L. A. Pomeroy, Cleveland.
54 Some Indications for Surgical Treatment of Chronic Gastric Ulcer. F. C. Herrick, Cleveland.

50. **Von Recklinghausen's Disease.**—In four cases of von Recklinghausen's disease, occurring at the Lakeside Hospital in the past ten years, three patients had multiple cutaneous tumors and pigmentations; while in three of them large Ranken-neuromata, two of the face and one of the back, were found. In one patient an immense neuroma lymphangiectatica of the sternum was present. No especial functional disturbances were noted except pain in the cutaneous nodules in one of the cases and severe frontal headaches in another. In two of the cases the tumors were congenital, in another the growths were present for years; while in another trauma at the age of 2 years was given as the cause of the growth. Heredity was present in but one case, the patient's mother and three sisters being affected to his knowledge. Recurrence of a Ranken-neurom of the face, following operation was found in one case, but there was no sarcomatous change as is found in 12 per cent. of such cases. In three of the cases histologic examination revealed fibromata with enclosed nerves; while in the other patient the tumors were cut from nerves at the time of examination, though nothing was said of nerve tissue in the histologic description of the sections. It was impossible to corroborate Verocay's findings that the tumors arise from the sheath of Schwann or its precursor neurons and therefore should be called neurinoma. However, in one case the nerves were not well defined from the surrounding fibrous tissue and there was a marked increase in the nuclei of the sheath of Schwann.

Journal of Maine Medical Association, Portland

September

55 State and Condition of Medical Profession of Maine. E. H. Bennett, Lubec.
56 Acute Abdomen. J. B. Deaver, Philadelphia.
57 Tuberculosis of Lungs in Infants and Children. T. J. Burrage, Portland.
58 Cooperation in Medicine. B. F. Barker, Bath.
59 Medical Inspection of Public Schools. D. E. Dolloff, Biddeford.

Bulletin of Manila Medical Society

July

60 Postoperative Care of Surgical Patient. J. R. McDill.
61 *Urinary Pigment as Diagnostic Sign in Malaria. F. B.
62 * Rupture of Uterus. F. Calderon.
63 and Suggestions for Its Betterment.
64 Progress of Medical Research in Philippine Islands. W. E. Musgrave.

61. **Urinary Pigment as Diagnostic Sign in Malaria.**—The urine from fifteen cases of malaria was examined by Bowman following the technic described by Uriolla for finding pigment elements and in fourteen of these specimens pigment granules were *found*. Then twenty-four specimens from cases with no symptoms of malaria and no previous history of "chills and fever" were examined and in twenty of these pigment granules were found similar to those seen in urine from the malaria cases. Bowman says that although pigment may be present in the urine in cases of malaria, as a method of diagnosing the disease it would seem to require a great deal of experience to distinguish the different kinds of pigment, definitely enough to make the examination of any practical value.

62. **Rupture of Uterus.**—Obstetric curettages (not gynecologic) are held to be very dangerous by Calderon and, he

says, should be done by the fingers whenever possible. In transverse presentations of dead or moribund fetuses, with the os dilated, the membranes broken, and the uterus in a state of tetanic contraction Calderon would not do a podalic version. Embryotomy should be performed to save the life of the mother. In cases with rigid, undilatable os where a rapid evacuation is necessary, as in cases of eclampsia and placenta prævia, Calderon says, it is better to extract the fetus by the abdominal route, otherwise the mother is exposed to the danger of cervical uterine tears.

Annals of Surgery, Philadelphia

September

65 Treatment of Fractures of Long Bones. R. H. Harte, Philadelphia.
66 Treatment of Far-Advanced Malignant Disease. J. H. Gibbon, Philadelphia.
67 *Extirpation of Tumors of Vomer Through Roof of Mouth. C. H. Mayo, Rochester, Minn.
68 *Pyloroptosis; Gastric Atony as Original Cause of Neurasthenia, Its Cure. A. Maclaren and L. E. Daugherty, St. Paul.
69 *Ulcer of Stomach and Duodenum with Special Reference to End Results. W. J. Mayo, Rochester, Minn.
70 Obstruction of Ileum by Large Gall-Stone; Enterostomy; Subsequent Cholecystectomy and Suture of Duodenum. F. B. Lund, Boston.
71 Chronic Colitis and Pericolitis. A. G. Gerster, New York.
72 Two Cases of Intussusception Caused by Lipoma of Descending Colon. H. R. Wharton, Philadelphia.
73 *Suppuration in Half of Horseshoe Kidney. J. E. Thompson, Galveston, Texas.
74 *Surgical Treatment of Fistula in Ano Without Mutilation of Sphincter. K. A. J. Mackenzie, Portland, Ore.
75 Case of Everted Dorsal Dislocations of Hip. O. H. Allis and J. B. Roberts, Philadelphia.
76 *Treatment of Oblique Fractures of Tibia and Other Bones by Means of External Clamps Inserted Through Small Openings in Skin. L. Freeman, Denver.
77 Acute Pneumococcus Infections of Extremities. C. A. Powers, Denver.
78 Dislocation of Hip Complicated with Fracture of Femur. G. H. Monks, Boston.

67. **Extirpation of Tumors of Vomer Through Roof of Mouth.**—In two cases of malignant disease of the vomer, each with a pear-shaped enlargement of the septum which completely closed the posterior nares, Mayo was able to remove the growth through the roof of the mouth by the removal of a section of the bone 1 inch long and ¾ of an inch wide. In neither of these cases was it necessary to sever the soft palate as advised by Nélaton—a procedure which, he says, complicates the technic of the operation and the after-care of the patient.

68, 69, 73 and 74.—Abstracted in The Journal, Aug. 5, 1911, pp. 505 and 506.

76. Abstracted in The Journal, July 29, 1911, p. 411.

Journal of Biological Chemistry, Baltimore

September

79 Further Experiments on Determination of Iodin in Thyroid. A. Seidell, Washington, D. C.
80 Erepsins of Glomerella Rufomaculans and Sphaeropsis Malorum. H. S. Reed and H. S. Stahl.
81 Studies on Melanin; III. Inhibitory Action of Certain Phenolic Substances on Tyrosinase. R. A. Gortner, Washington, D. C.
82 *Mucic Acid and Intermediary Carbohydrate Metabolism. W. C. Rose, New Haven, Conn.
83 Hydantoins: 1-Phenyl-2-Thiohydantoins from Some Amino-Acids. C. A. Brautlecht, New Haven, Conn.
84 Hydantoins: Synthesis of [illegible] I. L. Wheeler, C. Hoffman and T. B. [illegible] Conn.
85 Studies in Carbohydrate [illegible] Underhill, New Haven, Conn.

82. **Metabolism of Mucic Acid.**—Rose found that mucic acid, in doses of 10 to 20 grams, was not completely oxidized by rabbits, but was in part excreted unchanged in the urine. When given in doses of 20 grams to a medium-sized dog, mucic acid was excreted unchanged in the urine in amounts large enough to identify. The greater portion of the acid was not recovered. After large doses of mucic acid, only a very small increase in oxalic acid elimination occurs in rabbits and dogs. This increase is by no means as large as would be expected if mucic acid were one of the precursors of oxalic acid. Rabbits and dogs receiving the amounts of gallactose and lactose stoichiometrically equivalent to 20 grams of mucic acid, excrete no mucic acid in the urine. Obviously, therefore, mucic acid is not an intermediary product in the metabolism of galactose-yielding sugars.

Journal of American Public Health Association, Columbus, O.

August

86 [illegible] of Feces for Vibrio Cholera. A. M. [illegible] C.
87 *[illegible] of Commercial Ice Cream in Bos- [illegible] D. J. Dusossoit, Boston.
88 Relation of Universities to Public Health Work. H. W. Hill, Minnetonka, Minn.
89 Advantages of Cooperation Between State Boards of Health and State Universities. E. H. S. Bailey, Lawrence.
90 Relation of State University of North Dakota to State Board of Health. G. F. Ruediger, Grand Forks, N. Dak.
91 Relation of State Universities to Public Health Work. E. Barton, Urbana, Ill.
92 Purification of Water-Supply of Richmond, Va., by Sedimentation and Coagulation, Without Filtration. E. N. Ezekiel, Richmond.
93 Hypochlorite Treatment of Public Water Supplies: Its Adaptability and Limitations. G. A. Johnson, New York.
94 Practical Tests of Certain Factors in State Work Affecting Accuracy of Diphtheria Culture Diagnosis. A. J. Chesley, Minnesota.

87. **Commercial Ice Cream.**—The bacteriologic examination of ice cream in the city of Boston made by the authors showed that much of it contains more than 500,000 bacteria per cubic centimeter, the legal maximum. This is due partly to the large bacterial flora of the cream used, to long storage of the product, and in some cases to unsanitary methods of manufacture. Their analysis of samples of cream indicate that even the careful manufacturer, unless he has an exceptionally good cream-supply or depends on pasteurization, cannot expect to produce ice cream with a bacterial content within the legal limit.

Northwest Medicine, Seattle

September

95 Surgical Operations on Obese and Advantage of Preparatory Fasting. A. E. Rockey, Portland, Ore.
96 Arteriosclerosis with Special Reference to Heart and Kidneys. C. Neu, Seattle, Wash.
97 Some Recent Forms of Treatment of Arteriosclerosis. W. C. Heussy, Seattle.
98 Fundus of Eye in Arteriosclerosis. G. W. Swift, Seattle.
99 Health Inspection as Applied to Individual. E. V. Silver, Salt Lake City, Utah.
100 *Specialist and General Practitioner, Their Work and Professional Relations. H. Weir, Portland, Ore.
101 Some Clinical Facts About Ulcer of Stomach. G. F. Koehler, Portland, Ore.
102 Cerebral Palsies of Childhood, Importance of Early Diagnosis. R. P. Smith, Seattle, Wash.

100. **Specialist and Practitioner.**—Weir pleads for closer association of practitioner and specialist, for more frequent consultation, for increased confidence and exchange of professional courtesies, for more consideration of the rights and limitations of each, for full written reports and greater attention to the diagnosis, the value and necessity of such reports, for especial consideration of the rights of the practitioner who refers his patient to the specialist, but does not release or discharge him by so doing, for more specific information from the practitioner regarding the man as well as regarding the medical aspects of the patient he refers, for unity in treatment as well as generosity of service, and, last, but not least, combined effort to protect each from the man who will not pay his bills.

Archives of Internal Medicine, Chicago

September 15

103 *Pathologic Anatomy of Exophthlamic Goiter. D. Marine and C. H. Lenhart, Cleveland.
104 Symptomatology of Temporosphenoidal Tumors. F. Kennedy, New York.
105 Fu [illegible] ve Treatment of Rabies with [illegible] roescher, Pittsburgh.
106 So [illegible] of Proteins and Their Pos- [illegible] Pathology. F. P. Underhill, New Haven, Conn.
107 *Studies on Water-Drinking. P. B. Hawk, Urbana, Ill.
108 Immediate Effect on Complement Fixation Test for Lues of Treatment with Salvarsan. C. F. Craig, Washington, D. C.

103. ***Exophthalmic Goiter.***—The thyroids of sixty-nine cases were studied by Marine and Lenhart. They found that the anatomic changes in the several body tissues in exophthalmic goiter are variable and manifold. The most prominent and most constant change is active hyperplasia of the thyroid and lymphoid tissues. These changes are not constant, since the exophthalmic goiter syndrome, as at present recognized, may coexist with a normal thyroid, with a colloid goiter, with an actively hyperplastic thyroid, with an atrophic thyroid or with a tumor of the thyroid. The great majority of individuals presenting this syndrome in recognizable form have some degree of thyroid and lymphoid hyperplasia, and

all true cases have had, during the developmental stage, active thyroid and lymphoid hyperplasia. Active thyroid and lymphoid hyperplasia are not specific for this syndrome, since similar anatomic changes are present in a variety of other abnormal body states.

The series of anatomic changes which occur in a thyroid as it passes from its normal or its colloid state through active hyperplasia and on to atrophy or to colloid goiter represents this tissue's biologic reaction whenever those biochemical disturbances in the organism's nutrition occur which excite its compensatory activity. Active thyroid hyperplasia means thyroid insufficiency, and although the causes which excite this activity are unknown and, therefore, may or may not be multiple, still, the basic anatomic reaction of the thyroid tissue seems to be the same in all the several clinical varieties of goiter and, indeed, seems to be the only one with which the thyroid tissue is endowed. The only defined physiologic activity of the thyroid secretion is that determined by its iodin content. Iodin is related to the exophthalmic goiter thyroid in the same way that iodin is related to the thyroid of other clinical associations and of other animals as well, viz., that iodin varies inversely with the degree of active hyperplasia. The ability of the exophthalmic goiter thyroid to take up iodin varies with the degree of active hyperplasia (hence inversely with the amount of iodin present) and is similar to that of other active thyroid hyperplasias in man and the lower animals. Iodin induces the same series of anatomic changes in exophthalmic thyroid goiter as in the other varieties of thyroid hyperplasias in man and animals.

The temperature and pulse reactions both before and after operation tend to vary with the degree of thyroid and lymphoid hyperplasia. The differences between the reactions in cases with normal or with colloid glands and the reactions in cases with marked hyperplasias are too slight for a suggestion of any cause and effect relation. The pulse and temperature reactions and the thyroid hyperplasia are parallel and resultant phenomena dependent on more general and more remote causes. An incomplete exophthalmic goiter syndrome may exist with the thyroid normal, or, the thyroid may be markedly hyperplastic with the syndrome absent, or, finally, the histologic structure and iodin content of the thyroid in a given case of exophthalmic goiter may be reversed without necessarily modifying the symptom-complex. Myxedema does not precede; it occasionally accompanies, but usually supervenes late in the course of exophthalmic goiter and is to be looked on as the end stage of thyroid insufficiency. The immediate postoperative mortality with its associated high temperature and pulse-rate in uncomplicated cases, varies with the degree of active lymphoid and thyroid hyperplasias and is most probably the result of the organism's profound general weakness and exhaustion. The degree of active lymphoid and thyroid hyperplasia is therefore the best index of the severity of the disease. The authors emphasize that the essential physiologic disturbance of the thyroid in exophthalmic goiter is insufficiency, its reaction compensatory and its significance symptomatic.

107. **Water-Drinking.**—The problem studied by Hawk was the activity of the pancreatic function under the influence of water-drinking at meal time. Normal men were used as subjects and were required to ingest a diet uniform in all respects from day to day. Three experiments were made, each experiment being divided into three periods; a fore period in which the subject was brought into nitrogen equilibrium through the ingestion of the uniform diet supplemented by a minimal water ingestion; a water period during which the water ingestion at meal time was increased from 1,500 to 4,000 c.c. per day; and an after period in which the dietary conditions of the fore period prevailed. Two of the experiments were on the influence of moderate water-drinking and in these the volume of the extra water ingested during water period was 1,500 c.c. per day or 500 c.c. per meal. In the third experiment the influence of copious water-drinking was studied and in this instance the subject was required to ingest on each day of the water period 4,000 c.c. above that ingested in the fore and after periods. On the basis of the data gathered in this and in associated investigations Hawk is prepared to draw the general conclusion that the ingestion of quantities of water at meal-time ranging in volume from ½ to 1⅓ liters stimulate the pancreatic function in two ways: first, a direct stimulation of the nervous mechanism of the pancreas brought about while the water is still in the stomach and, second, an indirect stimulation brought about on the entrance of the increased volume of acid chyme into the duodenum. The drinking of water with meals ought therefore to bring about a more rapid and complete digestion and absorption of the fat and carbohydrate constituents of the diet, two observations verified by experimentation in the laboratory.

Southern Medical Journal, Nashville

September

109 Tuberculosis. R. Matas, New Orleans, La.
110 Arterial Changes Associated with Cardiac and Renal Disease. W. H. Witt, Nashville, Tenn.
111 Pellagra-Symptoms, Diagnosis and Treatment. J. G. Wilkinson, Ragland, Ala.
112 Importance of Pure Food. L. W. Johnston, Tuskegee, Ala.
113 Visceroptosis J. N. Baker, Montgomery, Ala.
114 Conservation of Health T. D. Coleman, Augusta, Ga.
115 Complications and Sequelæ of Measles, Based on Study of Four Hundred and Seventy Cases. T. Weaver, Nashville, Tenn.
116 *Case of Coxa Vara. W. C. Campbell, Memphis, Tenn.

116. Abstracted in THE JOURNAL, Dec. 3, 1910, p. 2006.

Medical Record, New York

September 23

117 *Value of Radium Treatment in Cancer of Digestive Tract. M. Einhorn, New York.
118 Two Cases of Little's Disease. M. Neustaedter, New York.
119 Chorioepithelioma Malignum. W. H. Dukeman, Los Angeles, Cal
120 Skin Grafting. A. E. Isaacs, New York.
121 Clinical Study of Forty-Four Cases of Pneumothorax Occurring in Pulmonary Tuberculosis. J. M. Cruice, Philadelphia.
122 Neuropathic Joint Disease. L. S. Manson, New York.
123 Arteriosclerosis W. F. Waugh, Chicago.
124 Soy Bean Cookery. J. Ruhrah, Baltimore.

117. **Radium Treatment in Cancer of Digestive Tract.**—Einhorn believes that benefit is obtained in inoperable cancer of the stomach from the application of radium directly by an apparatus introduced into the stomach by way of the esophagus. By this means, he says pain is diminished, hemorrhage is controlled, and life is prolonged, and if the treatment is begun early enough absolute cure may be obtained. The author presents the histories of seven cases of disease of different parts of the stomach.

New York Medical Journal

September 23

125 *Experimental Poliomyelitis. M. Neustaedter and W. C. Thro, New York
126 Fifty Cases of Syphilis Treated with Salvarsan, with Special Reference to Clinical Result and Wassermann Reaction. A L. Wolbarst, New York.
127 Three Cases of Supravaginal Hysterectomy for Fibromyomata Uteri. I Collica, New York.
128 Law, Medicine and the State; Some Points of Contact. F. K. Hallock, Cromwell, Conn.
129 Railway Sanitation. C. P. Wertenbaker, Norfolk, Va.
130 Résumé of One Hundred Wassermann Tests. J. A. Roddy, Philadelphia.
131 Sarcoma Arising from Thymus Gland in Adult; An Associated Endothoracic Goiter. J. Funke, Atlanta, Ga.
132 Nasal Obstructions as Causative Factors in Bronchial Asthma Cases. J. Solow, New York.
133 Occipital Atlas and Atloaxis Dislocation. L. L. Thompson, Gridley, Cal.

125. **Experimental Poliomyelitis.**—On the basis that the virus of anterior poliomyelitis lurks in the dust and that the nasopharynx must be the point of entry, the authors collected the dust of rooms wherein cases of poliomyelitis occurred and prepared extracts from these sweepings, which they injected into monkeys (of the species Rhesus) subcutaneously, intraspinally and intracerebrally. Until now they have used six monkeys for their experiments. The sweepings were obtained from cases of from six months' to three days' duration after the onset of the paralysis. The following is a report of one of these experiments: August 29, they obtained the sweepings of a room wherein a 4-year-old child was stricken with poliomyelitis and was then two days paralyzed. In this room the child passed most of its time and also was there confined to bed. The dust, about 50

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grams, was macerated overnight with 30 cubic centimeters of sterile water and then shaken for one hour. The mixture was filtered through a paper filter and 15 cubic centimeters of this filtrate were passed through a special Bougé filter under high pressure within an hour.

Within eighteen hours after the collection of this dust 5 cubic centimeters of the filtrate were injected into a monkey through the spinal canal after having first withdrawn 5 cubic centimeters of a clear spinal fluid and 8 cubic centimeters were injected subcutaneously. After the injection the animal was depressed and sullen and inattentive to its surroundings. On the following day the monkey was perfectly well and remained so until September 4, six days after the injection, when it was very ill and paralyzed. The animal presented the following symptoms: Flaccid paralysis in the right foreleg, which was hanging down from his side; he was unable to move it. There was a marked paresis of both hind legs, most pronounced in the left. He was able only with great difficulty to move about in his cage and this he accomplished by holding on to the bars with the left foreleg and hopping about. The patellar and plantar reflexes were absent. On extending the hind legs he shrieked, evidently from pain. He was chewing his food at times, but was rather sullen and depressed, keeping continually to a corner of his cage, holding on with his left forepaw, and lying down when unobserved. The muscles of his neck were not rigid, the pupils were normal and reacted to light promptly. A lumbar puncture was made repeatedly, but without success. Two drops of a gelatinous material were obtained from the needle, after withdrawing it from the spinal canal.

September 6, two days later, he still showed all the symptoms mentioned, but more marked, and still chewed his carrot. A spinal puncture was made and 2 drops of a gelatinous material obtained.

The animal was then killed and the following are the results of the autopsy: There was a marked hyperemia of the meninges in the lumbar region and a lesser one in the cervical region; the vessels of the brain cortex and cord were markedly congested. This hyperemia was evident at all the levels of the cord, in the medulla, the pons, the ventricles and basal ganglia. The cord and brain presented an edematous condition. On section, one could note hemorrhages in the gray substance of the cord, especially in the lumbar and cervical regions. There were also some hemorrhagic foci in the medulla, while the white and gray substance of the brain presented microscopically a normal appearance. The viscera presented the following changes: Areas of congestion in the middle and lower lobes of the left lung; the spleen was firm and congested, but not enlarged; the omentum was adherent to the cecum and all the visceral vessels were very much congested. All other organs and glands were, to all appearance, normal.

Sections of the spinal cord, cerebellum, pons, medulla, brain, spinal and basal ganglia were now emulsified in 50 cubic centimeters of normal salt solution and preserved for injections. The authors believe that they have thus proved that: Acute poliomyelitis is both infectious and contagious; that it is propagated by the dust, and that the nasopharynx must be the port of entry.

Illinois Medical Journal, Springfield

September

134 *Liberal Diet in Typhoid. J. L. Miller, Chicago.
135 *Clinical Determination and Significance of Some of Peripheral Signs of Aortic Insufficiency. F. Tice, Chicago.
136 Arteriosclerosis. M. S. Marcy, Peoria, Ill.
137 Prevention of Blindness. T. A. Woodruff, Chicago.
138 Health-Conscience and Drink Problem. C. B. Johnson, Champaign, Ill.
139 Intestinal Toxemia. M. H. Mack, Chicago.
140 General Anesthesia: Some Methods Now in Use. G. C. Kasdorf, Robinson, Ill.
141 Modern Indications in Treatment of Heart Disease. A. E. Taussig, St. Louis.
142 Outlook for Medical Profession from Legislation and Economic Viewpoints. C. J. Whalen, Chicago.
143 Infantile Paralysis. V. A. McClanahan, Viola, Ill.
144 Case of Bence-Jones Albumosuria. C. A. W. Zimmerman, East St. Louis, Ill.

134 and 135. Abstracted in THE JOURNAL, June 17, 1911, p. 1843.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Journal of Children's Diseases, London

August

1 *Keratomalacia. S. Stephenson.
2 *Surgical Aspects of Acute Abdominal Disease in Childhood. H. S. Clogg.
3 Tuberculosis of Brain with Involvement of Both Optic Thalami. R. B. Ness and W. M. Elliott.

1. **Keratomalacia.**—Keratomalacia is essentially a disease of early infancy. The average age of Stephenson's thirty-one cases was four and one-half months. He has never seen the disease except in the children of the poor. The disease hardly ever occurs in breast-fed babies. Two alone of Stephenson's patients, or 6.46 per cent., were entirely breast fed. Syphilis was diagnosed clinically in seven, or in 22.58 per cent. Tuberculosis is an important cause of keratomalacia in infants. It existed in six, or 19.36 per cent. of the cases, the diagnosis being made during life in three and after death in three of the children. Of the twelve fatal cases tuberculosis was present in three. The disease was of the generalized type, as is usual in children so young with pulmonary or meningeal manifestations. Marasmus, pure and simple, accounted for seven, or 22.58 per cent. of the thirty-one cases. In two of the cases, or 6.45 per cent., the cause of the corneal mischief remained altogether obscure.

2. **Acute Abdominal Disease in Childhood.**—Clogg's own experience of ninety-eight cases of the "acute abdomen" in children under 12 years of age shows the diseases represented as follows: Appendicitis, fifty-four cases, pneumococcal peritonitis, six cases, inflammation of the diverticulum of Meckel, two cases, intussusception, twenty-eight cases, intestinal obstruction by a band, three cases, intestinal obstruction from adhesions, four cases, intestinal obstruction from pressure of mesenteric glands, one case. No case of gastric or duodenal ulcer came under his observation.

Journal of Laryngology, Rhinology and Otology, London

September

4 Carcinoma of the Nasopharynx in Girl of 17. T. Guthrie.
5 Evisceration of Tonsils. C. G. R. Wood.
6 Treatment of Pulmonary Tuberculosis, Diseased Lacrimal Ducts, Catarrhal Otitis Media, Hay-Fever and Chronic Asthma Not Complicating Heart Disease. C. A. Bucklin.
7 Intracranial Dehiscences of Cavities of Ear and Dehiscences of Aqueduct of Fallopius. J. Mouret.

Medical Press and Circular, London

August 23

8 Diagnosis of Pyelonephritis. Tuffier.
9 Congenital Dislocation of Hip, Its Treatment. R. L. Swan and W. C. Stevenson.
10 Similarity Between Signs of Hematocele and Early Malignant Disease of Testicle. H. F. Woolfenden.

August 30

11 *Mayor's Scarf; How to Make It, How to Use and Apply It, and What to Apply It For. C. Marton.
12 Necessity for State Support of Hospitals. J. C. McWalter.
13 Fatal Result from Salvarsan. F. P. Weber.
14 Roentgenotherapy of Ringworm. J. Hall-Edwards.
15 Clinical Diagnosis of Early Tabes Dorsalis with Negative Wassermann Reactions. T. A. Williams.
16 Diagnosis and Treatment of Simple Glaucoma. A. A. Bradburne.

September 6

17 Recalcification (Ferrier) in Treatment of Tuberculosis. P. Rostaine.
18 Physiologic Measures in Therapeutics of Nervous Disease. T. A. Williams.
19 *Hereditary Protection Against Toxemia of Measles. T. J. O'Meara.
20 Prevention of Dental Caries from Public Health Standpoint. J. Wheatley.
21 Extra-Uterine Pregnancy: Its Pathology and Treatment. W. Krupp.
22 School Hygiene. J. O. Symes.

11. **Mayor's Scarf.**—Mayor's scarf consists of a square of stout material measuring 40 inches across, folded obliquely; 40 inches of an ordinary 3-inch bandage; a plug of carded cotton about 6 inches long and 3 or 4 inches thick; a dozen stout safety-pins. Place the plug of cotton in the arm-pit, bring the bent elbow close to the trunk and apply the base of the triangle formed by the scarf above the elbow, the apex being below. Draw it tight round the trunk and fix the ends of the scarf firmly at the back with safety-pins. The middle of the base of the triangle must not be opposite the arm, but nearer the middle line of the body, and the edge of the

all true cases have had, during the developmental stage, active thyroid and lymphoid hyperplasia. Active thyroid and lymphoid hyperplasia are not specific for this syndrome, since similar anatomic changes are present in a variety of other abnormal body states.

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22 School Hygiene. J. O. Symes.

11. **Mayor's Scarf.**—Mayor's scarf consists of a square of stout material *measuring 40 inches across, folded obliquely*; 40 inches of an ordinary 3-inch bandage; a plug of carded cotton about 6 inches long and 3 or 4 inches thick; a dozen stout safety-pins. Place the plug of cotton in the arm-pit, bring the bent elbow close to the trunk and apply the base of the triangle formed by the scarf above the elbow, the apex being below. Draw it tight round the trunk and fix the ends of the scarf firmly at the back with safety-pins. The middle of the base of the triangle must not be opposite the arm, but nearer the middle line of the body, and the edge of the

scarf should cross the arm at the junction of the lower third with the upper two-thirds. If placed higher up it would press on the radial nerve and cause pain. The next step is to pass the two pendant corners of the folded scarf upwards beneath the elbow and forearm, placing one of them on each shoulder. Attach to these corners the ends of the bandage which, passing over the corresponding shoulders, is to be fixed to the scarf behind the trunk. Fix the layer of the scarf in front of the elbow to the layer behind it by means of a safety-pin placed in the angle formed by the forearm flexed on the arm. The hand can be placed in the gutter formed by the folded scarf or left outside as the patient may prefer. The latter is, on the whole, to be preferred, because it leaves the patient free to move the wrist and fingers. Mayor's scarf, as this apparatus is called, is said by Martin to be of the greatest service in quite a number of different conditions; for instance: (1) To immobilize the upper limb which is the seat of injuries to be attended to later on. It allows of the patient's being transported without undue pain. (2) In fractures of the clavicle, in which three indications are to be met: (a) The shoulder must be thrown outwards, for which purpose a cotton plug is placed in the axilla so as to serve as a fulcrum when the arm is brought close to the body. (b) External fragment is raised by raising the upper limb as a whole. (c) The internal fragment is lowered which can be done by applying a cotton or horse-hair cushion over this fragment; this is kept in position by placing it underneath the scarf bandage that runs over the shoulder and is fixed to the back part of the scarf, to which it is further secured by pinning it to the bandage. The apparatus must be frequently inspected in order to reduce the resulting deformity to a minimum. (3) In injuries to the shoulder in which the primary indication is to relieve the pain (fracture of the acromion or scapula). (4) To immobilize the shoulder when this joint is the seat of arthritis. (5) To fix the shoulder after reduction of dislocation. (6) In fractures of the upper end of the humerus: anatomic neck, head, fracture of the tuberosities in which early massage has to be employed, beginning on the sixth or seventh day. Pending recourse to massage and between the sittings the arm is maintained in position by the application of the scarf. Also in fractures of the humerus where there is no tendency to displacement. (7) For fixation of the elbow after reduction of dislocation of this joint; traumatism of the elbow without displacement of the fragments: fractures of the external or internal condyle of the humerus.

19. **Hereditary Protection Against Toxemia of Measles.**—The history of measles on Cape Clear Island for sixty-seven years is cited by O'Meara to show that immunity against the toxemia of measles is gradually acquired in insular communities where isolation is practiced. The first and subsequent epidemics in such communities can only be protective against future attacks of malignant measles in proportion to the numbers affected. This is what has occurred in Cape Clear, as the inhabitants during each epidemic isolated the cases as early as possible, and by this means always succeeded in preventing the outbreaks from becoming pandemic. Furthermore, the course of the disease during the past thirty years shows that this immunity is hereditarily acquired, the death-rate having fallen practically in proportion to the percentage of parents who had measles before marriage.

Clinical Journal, London

August 23

23 Diagnosis of Causes of Chronic Muscular Insufficiency of Stomach. C. Bolton.
24 Influence of Diabetes and Gout on Tuberculous Infections of Human Body. N. Raw.

August 30

25 Physician's Experience of Salvarsan. O. F. F. Grunbaum.
26 Acute, Simple and Tuberculous Enlargement of Glands. D. C. L. Fitzwilliams.
27 *Influence of Syphilis on Tuberculous Infections of Human Body. D. Power.

September 6

28 *Some Abdominal Emergencies from Standpoint of Physician. F. J. Poynton.
29 Abdominal Emergencies, Their Treatment and Prevention. J. Sherren.
30 *Investigation Into Effect of Pituitary Extract on Bowels After Abdominal Operations. L. A. Bidwell.

27. **Influence of Syphilis on Tuberculous Infections.**—According to Power children with heredo-syphilis often show signs of tuberculous disease of the joints in the form of a "gummatous" synovitis which does not improve beyond a certain point under treatment by antisyphilitic remedies. In young adults born of syphilitic parents an attack of pneumonia or other infective disease may be followed by signs of syphilitic inflammation (syphilis hereditaria tarda). The syphilitic lesions thus manifested may become tuberculous and the patient may die of tuberculosis. Adults who acquire syphilis while they are suffering from active tubercle are liable to have any preexisting tuberculous inflammations rendered much more active. It is to these persons that the generalization applies, "The tuberculous bear syphilis badly." Old persons who acquired syphilis many years previously may be attacked by senile tuberculosis. In such persons the disease runs a more chronic course than usual and there is less tendency to suppuration.

28. **Abdominal Emergencies.**—In his discussion of gastric ulcer Poynton says he is certain that early feeding on the lines of Lenhartz' method is practically and scientifically wrong. Post-mortems on six cases that he has had under his care have shown in each essentially the same feature, an open vessel in an ulcer which, acute or subacute, may or may not be in a healing stage. He sees no hope for success unless absolute rest is given to the stomach and allow the vessel to become sealed by clot. He allows nothing at all by the mouth, uses strict rectal feeding and water enemata, and limits abdominal movement with a binder.

30. **Pituitary Extract After Abdominal Operations.**—To discover how far pituitary extract, unaided by aperients, is able to restore peristaltic contractions after abdominal operations Bidwell tried its effect on twenty-one unselected laparotomies. In the first two cases the dose given was .5 c.c. This was commenced twelve hours after the operation, and given every four hours for three days. In the latter cases the dose was increased to 1 c.c. for adults; it was commenced about six hours after operation, and repeated every four hours until eight doses had been given. From the result of the injections in these cases it is evident that pituitary extract has a very marked effect on the muscular coats of the bowel, and that it is able to overcome the temporary paralysis due to exposure. This is shown by the early passage of flatus and by the absence of abdominal discomfort. In only three cases did the bowels act without the assistance of an enema, but in every case, except two, a satisfactory action of the bowels was obtained after a simple enema, and it was unnecessary to give any aperient by the mouth. All the patients passed flatus freely within a few hours of the first injection, and were free from any abdominal pain or distention; no patient complained of flatulence. The flatus was often passed freely without the introduction of a flatus tube. The pulse-rate remained much lower than usual, and after some of the severest operations it did not exceed 80 per minute. Except in the last two cases no patient suffered from postoperative retention of urine, and so catheterization was unnecessary. Bidwell says that the patients treated with injections of pituitary extract after abdominal operations are certainly more generally comfortable than those who do not receive them. He does not, however, consider that the drug can be relied on completely to empty the bowels without the assistance of enemata, and so he does not think that it need be employed after the first twenty-four hours. He would recommend three injections of 1 c.c. each during the first twenty-four hours as a routine practice after laparotomies; this will enable the patient to pass flatus freely, will prevent any flatulent distention, and will lessen the amount of aperient necessary for a thorough clear-out of the bowels. The injections must be made into a muscle, and should never be given subcutaneously, as the latter method causes considerable pain. The first injection should be given six hours after the operation, and the other two at intervals of six hours. No further injection need be given unless the patient complains of flatulent distention. He has never seen any unpleasant general symptoms follow these injections.

Glasgow Medical Journal

September

31 Carcinoma of Male Mammary Gland; Report of a Case. G. T. Beatson.
32 Abdominal Emergencies. D. Macartney.
33 Inflammatory Affections of Fallopian Tubes and Ovaries. W. D. MacFarlane.

Annals of Tropical Medicine and Parasitology, Liverpool

August

34 Tropical Diseases in Southern Italy. U. Gabbi.
35 Papataci Flies (Phlebotomus) of Maltese Islands. R. Newstead.
36 *Experimental Transmission of Goiter from Man to Animals. R. McCarrison.
37 *Reducing Action of Trypanosomes on Hemoglobin. R. W. Nauss and W. Yorke.
38 Antimalarial Operations at Ismailia. J. W. W. Stephens.
39 Some New Species of African Mosquitoes (Culicidæ). R. Newstead and H. F. Carter.
40 Diagnosis and Distribution of Human Trypanosomiasis in Colony and Protectorate of Gambia. J. L. Todd and S. B. Wolbach.
41 *Mechanism of Production of Suppression of Urine in Blackwater Fever. W. Yorke and R. W. Nauss.
42 *Relation of Organic Phosphorus Content of Various Diets to Diseases of Nutrition, Particularly Beriberi. G. C. E. Simpson and E. S. Edie.

36. **Experimental Transmission of Goiter.**—McCarrison records his experiments made to test the assumption that goiter could be transmitted from man to animals by infected feces and at the same time determine the influence, if any, which earthworms might possess in spreading the disease. Sixteen goats were used in these experiments. The results in McCarrison's opinion prove that a hypertrophy of the thyroid gland of goats can be induced by infecting the water-supply with the feces of sufferers from goiter. It is, at present, impossible to state whether this hypertrophy is due to the action of the infecting agent of goiter, or only to the organic impurity of the water thus contaminated. Earthworms do not appear to be concerned in the spread of goiter. Goiter is essentially a disease of country localities, that is, of localities of unprotected water-supplies. In India McCarrison has found, from a study of the topography of a very large number of villages, that the freedom, or the reverse, of any particular village from this disease depends very largely on the extent to which the drinking water is contaminated by irrigating fields, which are fertilized with human and animal excreta. The source of the water-supply and the geological formations from which it is derived are, in comparison, of minor importance. Further experiments on goats are at present in progress, with a view to confirming the results detailed above. These experiments have not long been in progress, but already five out of twelve goats which are drinking fecally contaminated water show signs of enlargement of the thyroid, while no changes have occurred in the thyroids of twelve control animals. The final results of these experiments and the microscopic appearance of the glands will be detailed in a subsequent report.

37. **Reducing Action of Trypanosomes.**—The blood of certain animals in the later stages of trypansomal infections is frequently of a dark purple color. This appearance the authors claim results from deficient oxygenation of the hemoglobin. Living trypanosomes cause marked reduction of solutions of methylene blue and also of those of oxyhemoglobin. The incubation, in the absence of air, of living trypanosomes in defibrinated blood of a normal animal causes considerable reduction or, if the parasites be numerous, total disappearance of the oxygen combined with the hemoglobin. A correspondent increase in the amount of carbon dioxid has not yet been found. The mere presence of numerous parasites in the peripheral circulation is not, however, sufficient to account for the purple color of the blood, since the blood of rats and guinea-pigs swarming with parasites is usually of normal bright-red appearance. The purple color is most marked in the blood of rabbits in the later stages of the disease. Although the peripheral blood of these animals does not contain large numbers of parasites, yet the respiratory passages are found to be considerably involved. The nasal mucous membrane and that of the trachea and bronchial tubes is often extremely edematous and infiltrated, and the respiration of the animal is stertorous and labored. On microscopic examinations of sections of these tissues trypanosomes were often found in large numbers in the edematous mucous and submucous tissue.

41. **Suppression of Urine in Blackwater Fever.**—It is evident from the author's experiments that, under certain conditions, the mere passage of hemoglobin through the kidneys of a healthy animal is sufficient to cause suppression of urine owing to occlusion of the lumen of the renal tubules by plugs of granular material derived from the hemoglobin. The process is considerably facilitated by any factor which tends to lower the blood-pressure of the animal, and as a result the secretion of water by the Malphigian capsules. On the other hand, when the blood-volume of the animal is kept up by the injection of saline solution and by feeding the animal on moist food, a large amount of hemoglobin (38 gm.) may be injected without any tendency to suppression of urine.

42. **Organic Phosphorus Content of Various Diets and Diseases of Nutrition.**—The lack or deficiency of organic phosphorus in the diet is held by the authors to be the exciting cause of beriberi in the majority of cases. In other cases the differences may be individual in the patient, since some individuals require much larger amounts than others, and others may be unable to absorb and assimilate the compounds, though present in the diet. Occasionally, epidemics of beriberi appear to be due to a bacterial infection of the gastro-intestinal tract, either through the catarrh interfering with absorption or to the bacteria (or their products) absorbing or splitting the organic phosphates before they could be absorbed. Tropical beriberi is a disease of metabolism due to the amount of organic phosphorus compounds assimilated being below that essential for the human organism. This is in the majority of cases due to deficiency of organic phosphates in the diet, but may in occasional cases be due (a) to deficient absorption of organic phosphates by the alimentary tract, or (b) to bacterial infection possibly splitting the phosphates before absorption or interfering with the absorptive power of the intestine.

Annales des Maladies des Org. Génito-Urinaires, Paris

July 1, XXIX, No. 13, pp. 1153-1248

43 Improved Technic for Catheterization of the Ureter. M. Heitz-Boyer.

July 15, No. 14, pp. 1249-1344

44 *Endovesical Operations for Tumors of the Bladder. J. Doré and J. Mock. Concluded.

August 1, No. 15, pp. 1345-1440 and Supplement

45 *Sexual Functioning After Freyer's Operation for Hypertrophied Prostate. (Les canaux éjaculateurs dans l'hypertrophie prostatique et les fonctions sexuelles après la prostatectomie de Freyer.) F. Legueu and E. Papin. Commenced in No. 13.
46 Temporary Ureterostomy for Diagnosis of Kidney Functioning. G. Key.
47 Six Cases of Cystitis with Partial Retention of Urine. M. Cealic and L. Strominger.
48 *Refractometric Estimation of Hydremia in Kidney and Heart Disease. (L'hydrémie des brightiques et des cardiaques oedémateux.) F. Widal, R. Benard and E. Vaucher.
49 Functional Exploration of the Kidneys; the Secretion of Urea. M. Heitz-Boyer.
50 Resistance to Traumatism After Nephrectomy. A. Pousson.
51 Kidney Cysts. F. Legueu and H. Verliac.
52 Successful Partial Resection of Tuberculous Horseshoe Kidney. V. Carlier.
53 Kidney Calculi. M. Rafin.
54 Prolapse of the Ureter into the Bladder. P. Bazy.
55 Cystoscopic Diagnosis of Bladder Tumors. G. Marion.
56 Early Prostatectomy in Cancer of the Prostate. E. Desnos.
57 Tertiary Syphilis in the Urethra and Urethral Fistulas. E. Michon.
58 The Gonococcus. (On connait mal le gonocoque.) J. Janet.
59 Novocain in Spinal Anesthesia in Urology. E. Jeanbrau.

44. **Endovesical Operations for Bladder Tumors.**—Doré and Mock describe the technic preferable under various conditions, comparing the methods of different operators, and reporting in detail seventy-six cases which they have compiled, including a large number previously unpublished. There was never any serious hemorrhage and the lesion soon healed. A point to be borne in mind is that as long as any clots remain in the bladder the organ contracts on them and this may keep up a tendency to hemorrhage. The patient should be reexamined every month the first year and after this at longer intervals. There was no recurrence of the tumor in 75 per cent. of the forty patients kept under supervision for two years.

45. **The Sexual Functions with Hypertrophy of the Prostate and After Freyer's Prostatectomy.**—Legueu and Papin report extensive clinical and experimental experiences, with numerous illustrations, and review eighteen cases in which the Freyer operation was done with necropsy later. They then review sixteen others on record in which the Freyer operation was done and sexual functioning thereafter recorded, with an additional group of nine cases from their own experience. In their nine cases the sexual functioning was unimpaired in all but two cases, and one of these was a man of 64. The anatomic and clinical data thus reviewed sustain the assumption that the Freyer technic does not interfere in the least with the genital functions, leaving this apparatus intact, ejaculation occurring exteriorly. By the relief from compression the operation may even rejuvenate the sexual functioning.

48. **Refractometric Estimation of Hydremia.**—This article is in the supplement of 186 pages which is issued in honor of the fact that the *Annales* is just entering its thirtieth year and of the Second International Congress of Urology held the same year. Widal opens the list of articles with a recommendation of the use of the refractometer as a means of estimating the dilution of the blood in chronic kidney and heart disease, supplementary to estimation of the degree of infiltration of the tissues by weighing the patient. By this means the action of drugs can be instructively studied, especially after the patient has been on a salt-poor diet for a time.

Annales de Médecine et Chirurgie Infantiles, Paris

July 15, XV, No. 14, pp. 433-464

60 Bromoform Poisoning in Child with Whooping-Cough. E. Merot.
61 *The Heart in Rheumatism Involving the Viscera in Children. E. Weill and G. Mouriquand.

August 15, No. 16, pp. 497-528

62 Tracheobronchial Glandular Disease in Children. H. Grenet and M. Maillet.

61. **The Heart in Rheumatism in Children.**—Weill and Mouriquand say that even the apparently mildest rheumatism in a child, not causing the slightest appreciable symptoms, may yet entail heart trouble, possibly fatal. This is accepted as a matter of course in acute articular rheumatism, in which the heart behaves like a joint, but it is not generally known that a slight attack of rheumatism, with merely vague pains or none at all, may be followed after a few weeks or months or years by a little pain in the precordial region and dyspnea. The heart beat is found 120 or 140, but regular, and there may be evidences of old mitral insufficiency and recent pericardial friction sounds. The liver is slightly enlarged, the base of the lungs congested and the child is pale and languid, without appetite. Under rest in bed, ice to the heart, digitalis and the salicylates the symptoms subside and all seems well after four or five days. If the temperature is taken, however, it will be found a little above normal and after a few days the syndrome recurs, to subside and return again. This alternation of symptoms is characteristic of the affection in question. No one imagines anything is seriously wrong until the terminal phase develops with aggravation of all the symptoms, vomiting and hemoptysis and the child dies in collapse, without signs at any time of true asystolia, dropsy or edema. They have encountered ten cases of this malignant rheumatic heart disease in children and discuss its various features. Their experience teaches the importance of vigorous salicylic medication in every case of rheumatism in a child, no matter how apparently mild, and the physician should watch over the heart afterward. Every tachycardia, every pain in the heart region with or without fever, should be regarded as signs of serious trouble, especially when there is accentuation of the second pulmonary sound. This latter indicates not only the participation of the pericardium but also the possibility of deeper lesions so often associated with the pericarditis. Weill advocates subcutaneous injections of sodium salicylate dissolved in twice the amount of water. From 2 to 4 gm. of this solution can be injected at one point without inducing a local reaction. Digitalis also relieves; the children with the affection seem to display a special tolerance for digitalis and the symptoms improve under it.

Archives Internationales de Chirurgie, Ghent

V, No. 2, pp. 125-244. Last indexed January 21, p. 227

63 *Exclusion of Urine from the Bladder in Treatment of Tuberculosis of the Bladder. (De la dérivation urinaire ou exclusion vésicale dans la tuberculose de la vessie.) C. Willems.
64 Osteomas in Muscles. (Contributo alla conoscenza dei cosi detti osteomi muscolari.) G. Marchetti.
65 Division of Muscles for Transplantation. (Divisione musco- ...cero.
66 r Suture of the Kid-
67 * Tuberculosis. G. Bolognesi.

63. **Exclusion of Urine from the Bladder in Treatment of Local Bladder Tuberculosis.**—Willems gives an illustrated description of severe tuberculosis of the bladder persisting after nephrectomy. He made an opening into the remaining kidney in the lumbar region and diverted the urine by a rubber funnel and tube into a long, narrow rubber bag strapped to the inner side of the leg. The patient was a man of 30, whose vesical tuberculosis had persisted for five years and had confined him to bed for the last nine months with incessant tenesmus, so intense that he was unable to sleep. He was restored to comparative health at once and wore the urinal for ten months, enchanted with it. As soon as the course of the urine was diverted, the bladder began at once to heal and all trouble from this source was at an end, but a tuberculous process in the wrist continued to develop, as he refused to allow it to be treated properly. Fifteen months after the exclusion of the bladder the young man had a drinking bout and caught cold, a cough and fever developed with dyspnea and the amount collecting in the receptacle grew less and less and he soon succumbed in coma, the remaining kidney having become tuberculous, or it may have been already infected at the time of the operation. Necropsy showed that the severe bladder lesions had completely healed. Legueu reported a somewhat similar case last year in which he diverted the urine from the bladder by implanting the ureter of the remaining kidney in the intestine. All bladder trouble subsided at once and the intestine seems to bear without harm this new task to date, eight months after the operation.

67. **Conservative Treatment of Surgical Tuberculosis.**—Bolognesi has applied immobilization with local iodoform injections in forty-two cases of various surgical tuberculous processes and in twenty-one cases the lesions have entirely healed and in twelve there has been great improvement, but no benefit was realized in four and an operation became necessary in five. About twenty-five pages are devoted to tabulation of the details. The large joints, especially the knee, were the hardest to cure but seven were cured and four improved of the seventeen knee lesions and both of the elbow lesions.

Archives des Maladies de l'App. Digestif, Paris

July, V, No. 7, pp. 349-408

68 Anatomy of Gastric Ulcerations. G. Hayem.
69 Pathogenesis of Catarrhal Jaundice. L. Lagane and M. P. Weil.
70 Dosage of Soaps in the Stool. (Dosage des savons dans les fèces.) M. Fabre.
71 Mechanical Treatment of Tendency to Swallow Air: Nose Clamp. (Traitement mécanique de l'aerophagie par la "pince nasale.") J. A. Sicard.

Archives de Médecine des Enfants, Paris

July, XIV, No. 7, pp. 481-560

72 Hi... Malformations. (Elévation con- un enfant atteint de malforma- tile avec vestiges d'hémiplégie.)
73 Causes and Remedies for Crime in Children. (Essai médico-psychologique sur les causes et les remèdes de la criminalité.) H. Dauchez.

August, No. 8, pp. 561-640

74 *Flabby Big Belly in Infants. (Le gros ventre flasque des nourrissons.) A. B. Marfan.
75 Study by Centrifugation of Butter in Breast Milk. (Etude du beurre dans le lait de femme.) E. Planchu and R. Rendu.

74. **Flabby, Big Abdomen in Infants.**—Marfan refers to the enlargement of the abdomen from stretching of the atonic bowels plus a special flabbiness of the abdominal wall. Both these factors, the relaxation of the musculature of the digestive tract and of the walls enclosing it, are secondary to the

same cause which is producing the rachitis, as in nearly every case the pendulous belly is accompanied by signs of rachitic changes in the bones, and it forms part of what he calls the rachitic syndrome. Florid rachitis is often accompanied by atony of muscles. He believes that any infection or chronic intoxication occurring at a certain period of the development, this period extending from the latest months of intra-uterine existence to the end of the second year, is liable to entail rachitis; the most frequent of these causes are syphilis, tuberculosis and chronic digestive intoxication, but there are others. The infant reacts to these influences by changes in the cartilages and bone marrow, which interfere with normal ossification, and by changes in the blood and lymph-producing organs and in the glands, the latter possibly including changes in the parathyroids which may in turn induce tetany. The weakness of the muscles is another manifestation of the constitutional disturbance.

Bulletins de la Société de Pédiatrie, Paris

June, XIII, No. 6, pp. 253-331

76 The Abdomino-Costal Index in Children. P. Merklen.
77 Variations at Different Hours of Mineral Salt Content of Breast Milk. M. H. Barbier and Maseré.
78 *Treatment of Club-Foot in Infants by Subcutaneous Partial Scooping Out of the Tarsus. (Traitement du pied-bot chez le nourrisson par évidement sous-cutané du tarse.) M. Savariaud.
79 Intestinal Invagination. H. Triboulet and M. Savariaud.
80 *Spasm of the Glottis as Sole Manifestation of Tetany. H. Triboulet and Harvier.
81 *Esophagoscopy in Diagnosis and Treatment of Cicatricial Stenosis. G. Guisez.
82 *Anasarca in Two-Months' Babe Without Kidney Lesions. P. Nobécourt and Paisseau.
83 Meningitis with Mixed Infection. L. Guinon and H. Grenet.
84 *Clinical and Roentographic Diagnosis of Hypertrophy of the Thymus and Lymph-Nodes in the Anterior Mediastinum. d'Œlsnitz.
85 *Tuberculous Rheumatism. S. Veras.

78. **Club-Foot in Infants.**—Savariaud advocates a subcutaneous orthopedic operation for club-foot even in infants when it resists manipulations and the anterior portion of the calcaneus prevents even forcible correction. The ossification center must not be interfered with, so he aims to curet away mostly cartilage and encroach but very little on the bone. The bistoury is pushed down directly on and to the center of the head of the astragalus; then with a curet he scoops out chips from the cartilage and bone of the head of the astragalus and the greater process of the calcaneus. He sutures the skin or not after removing enough cartilage and bone tissue to permit ample and easy hypercorrection. A plaster cast is worn for several months, renewed every month or two. The feet thus operated on are remarkably supple and no recurrence is possible if the patient is supervised for a time. In three recent cases the infants were only 6, 12 and 15 months old, and the foot had been manipulated into a better position, much facilitating the operative correction for the deformity still left. The subcutaneous scooping out was preceded in each case by tenotomy and the end results are perfect in all, the children now wearing ordinary shoes. At first Savariaud hesitated to operate on the bone in such young children, but the excellent outcome and the harmlessness and simplicity of this subcutaneous technic have converted him to its advocacy. Broca endorses it only for cases in which there is reason to doubt the perseverance of the family in bringing the child regularly two or three times a week to the physician for proper orthopedic manipulations; they are liable alone to accomplish wonders in this line if systematically kept up. Jalaguier has been applying this subcutaneous scooping-out method for some time, and now has a record of ten cases, the ultimate outcome excellent in all. The children were a little older than in Savariaud's cases.

80. **Spasm of the Glottis as Only Sign of Tetany.**—Triboulet and Harvier state that even the Chvostek sign was absent in the case reported and there was nothing to indicate excessive nervous excitability except the spasm of the glottis. The child, an infant 13 months old, died from intercurrent measles pneumonia and the parathyroids were found extremely atrophied on one side while none could be found on the other. Triboulet suggests that spasm of the glottis occurring in this isolated form may have been responsible for the sudden death of certain children recorded as "thymus deaths." The assumption of an isolated spasm of the glottis throws light also on the persistence of symptoms after thymectomy for an unduly enlarged thymus. Electric tests of the excitability of the muscles will prove a valuable aid in differentiating the cause for a tendency to suffocation in children.

81. **Esophagoscopy in Children.**—Guisez reports a number of instructive cases to show the value of the esophagoscope in locating lesions, in facilitating the passage of sounds in cicatricial stenosis and permitting local treatment. Esophagoscopy is comparatively easy in children as the mouth of the esophagus is not closed, as in adults, but gapes rhythmically with inspiration. For a cicatricial stenosis he introduces a narrow bougie with the aid of the esophagoscope and leaves this bougie in place for a few hours. This prepares the way for sounds of a larger caliber and it is thus possible to stretch the lumen to normal size in time in most cases. If not, circular electrolysis through the esophagoscope renders invaluable service. He has had fifty-four patients with cicatricial stenosis resisting all ordinary measures. Only ten required gastrostomy; all the others were cured by the above measures through the natural passages. Twenty-one of the patients were children and all but two have been restored to a clinically normal condition.

82. **Anasarca with Intact Kidneys.**—The 2-months' infant began to lose weight and dropsy developed, the child dying in less than a month. There was nothing to explain the tendency to edema as the child was of healthy parentage and breast fed, and all the organs seemed sound. Necropsy revealed fatty degeneration of the liver while all the other organs were apparently sound and the kidneys intact.

84. **Diagnosis of Enlarged Thymus in Young Children.**—D'Oelsnitz analyzes the symptoms and signs suggesting hypertrophy of the thymus, his conclusions being that it is sometimes extremely difficult to distinguish between an unduly enlarged thymus and enlarged tracheobronchial glands as the cause of the dyspnea. He gives the details of twenty-one cases to illustrate the various points involved, including two in which he was certain that the thymus was hypertrophied, but an operation revealed atrophy of this gland, the enlarged tracheobronchial glands being responsible for the trouble. The special features of enlargement of the tracheobronchial glands are a history of measles, bronchitis or bronchopneumonia, the general lack of dulness over the manubrium, and difficulty in breathing which is experienced mostly during expiration, while the chest is retracted during inspiration, mainly in the lower portion, the depression occurring, if it occurs at all, simultaneously in the epigastrium, the lower sternum region and the hypochondrium on each side. The part of the chest above seems to protrude above the transverse groove resulting from this form of retraction. Sometimes the groove curves up on each side, so the chest above bulges spherically while the retracted portion below flattens out, spreading out on the sides. Roentography shows the normal chest with a shadow like a long-necked bottle, while with enlarged thymus the shadow is irregular, with a protrusion just below the neck of the bottle on one or both sides, but the outline is smooth and the shadow even. With swollen lymph-nodes in the anterior mediastinum, the upper part of the shadow is as normal but below it spreads out irregularly, generally on the right side of the shadow of the heart, the protrusions small and round or finger-shaped, sloping down and outward, sometimes showing several shadows with a circular outline while the depth of the shadow may vary from that of the heart, being either lighter or darker. He gives twenty typical radiographs to show the various features in these different conditions, regarding radiography as indispensable. The dulness with enlarged thymus usually encroaches on the left side.

85. **Tuberculous Rheumatism.**—Veras reports from Smyrna three cases of rheumatic pains in one or more joints in children giving positive tuberculin reactions. The pains dragged along for years without ever reaching the intensity of acute rheumatism, and the arthritis apparently healed, too soon

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122 [illegible] Arterial Circulation for the Kidney. (Ausbildung eines arteriellen Collateralkreislaufes der Niere.) M. Katzenstein.

113. **Glycosuria After Removal of the Pancreas.**—Eppinger and Falk report extensive experimental research with animals fed monoacetyl glucose and other ester compounds of grape sugar with acetic acid or saccharids before and after removal of the pancreas. They show that the assimilation of grape sugar may be profoundly modified while the assimilating power for some of these saccharids may be unimpaired, even after removal of the pancreas. The research suggests that it may be possible to find useful articles of food among these substances, especially for diabetics.

118. **Influenza in Infants.**—Müller refers in particular to influenza assuming the form of sepsis or effusion in the serous cavities of the body. In the septic form the fever sets in high but alternates with subnormal temperature; no disturbance in any organ can be discovered and the general health does not seem to be much disturbed in the majority of cases. In a few cases in his experience, however, the sepsis proved rapidly fatal or the whole syndrome recurred again and again with free intervals of weeks and months. He gives the curves of three such cases. In three others the influenza developed as a pleural empyema; the only infant less than six months old who survived was the only one merely punctured. No attempt at tamponing was made until the symptoms were much mitigated; the suppuration persisted for weeks but the child finally recovered. In three other cases the effusion occurred in the peritoneum and the children succumbed with signs of septic peritonitis. In some cases the symptoms indicated a serous meningitis.

119. **Operative Treatment of Laryngeal Tuberculosis.**—Blumenthal comments on the serious outlook when swallowing becomes so painful that the patients with laryngeal tuberculosis do not get enough nourishment and become intensely depressed. He has succeeded in putting an end to the dysphagia in two cases by resecting the superior laryngeal nerve. He describes the comparatively simple technic, applied to a woman of 33 and a man of 36 as a last resort. The by-effects were slight and transient.

Deutsche medizinische Wochenschrift, Berlin

August 31, XXXVII, No. 35, pp. 1585-1632

123 History of Bronchoscopy ar [illegible] Killian.
124 Indications for Endonasal [illegible] oid Bone. (Indikation der endonasal [illegible] und Ausräumung des Siebbeins.) [illegible]
125 Difficulty in Removing the Tube After Diphtheria. (Erschwertes Dekanulement und Larynxatresie nach Diphtherie.) M. A. H. Martens.
126 Conservative Radical Operations on the Middle Ear. (Ueber konservative Radikaloperationen des Mittelohres.) L. Stacke.
127 *Improved Technic of Illumination of the Nasal Sinuses, Orbit and Middle Ear. (Neue Methode und neues Instrument für die Durchleuchtung des Siebbeinlabyrinths, der Kieferhöhle, des Mittelohres und [illegible] gyai.
128 *Relations Between Mouth [illegible] uberculosis. (Beziehungen d [illegible] zur [illegible] osenberg.
129 * [illegible] Peritonsillitis. M. Levy.
130 [illegible] Tuberculosis of the Eye. (Zur [illegible] nergie" auf die experimentelle Tuberkulose des Auges.) F. J. Flemming and F. Krusius.
131 Changes in the Blood with Simple Gastric Achylia. I. A. Waledinsky.
132 Roentgen Rays in Estimation of Gastric Acidity. (Zur Aziditätsbestimmung des Mageninhalts mittels des Röntgenverfahrens.) G. Schwarz.

127. **Technic for Illumination of the Nasal Sinuses, Orbit and *Middle Ear.***—Gyergyai uses an electric lamp, the holder bent sideways at a right angle, this branch being long enough to be introduced to the depths of the maxillary sinus, close to the ear. He has applied it in thirty-eight cases and has been amazed at the instructive oversight thus permitted.

128. **Relations Between Mouth-Breathing and Pulmonary Tuberculosis.**—Rosenberg states that, besides its more familiar evils, chronic obstruction of the nose modifies the respiration in a way that materially favors bacterial invasion. The bacilli not only get into the lower air passages more readily but they find more favorable conditions for colonization, especially in the non-tuberculous shriveling of the right apex which is so common in mouth-breathers, called by Krönig "collapse induration." Rosenberg found this induration at the apex in eighteen of fifty cases of chronic obstruction of the nose, although there was nothing to suggest tuberculosis. Such persons are predisposed to tuberculosis on account

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121 Differential Diagnosis of Perforating Ulcer. (Ulcus penetrans im Röntgenbilde.) E. Schlesinger.
122 Possibility of Collateral Arterial Circulation for the Kidney. (Ausbildung eines arteriellen Collateralkreislaufes der Niere.) M. Katzenstein.

113. **Glycosuria After Removal of the Pancreas.**—Eppinger and Falk report extensive experimental research with animals fed monoacetyl glucose and other ester compounds of grape sugar with acetic acid or saccharids before and after removal of the pancreas. They show that the assimilation of grape sugar may be profoundly modified while the assimilating power for some of these saccharids may be unimpaired, even after removal of the pancreas. The research suggests that it may be possible to find useful articles of food among these substances, especially for diabetics.

118. **Influenza in Infants.**—Müller refers in particular to influenza assuming the form of sepsis or effusion in the serous cavities of the body. In the septic form the fever sets in high but alternates with subnormal temperature; no disturbance in any organ can be discovered and the general health does not seem to be much disturbed in the majority of cases. In a few cases in his experience, however, the sepsis proved rapidly fatal or the whole syndrome recurred again and again with free intervals of weeks and months. He gives the curves of three such cases. In three others the influenza developed as a pleural empyema; the only infant less than six months old who survived was the only one merely punctured. No attempt at tamponing was made until the symptoms were much mitigated; the suppuration persisted for weeks but the child finally recovered. In three other cases the effusion occurred in the peritoneum and the children succumbed with signs of septic peritonitis. In some cases the symptoms indicated a serous meningitis.

119. **Operative Treatment of Laryngeal Tuberculosis.**—Blumenthal comments on the serious outlook when swallowing becomes so painful that the patients with laryngeal tuberculosis do not get enough nourishment and become intensely depressed. He has succeeded in putting an end to the dysphagia in two cases by resecting the superior laryngeal nerve. He describes the comparatively simple technic, applied to a woman of 33 and a man of 36 as a last resort. The by-effects were slight and transient.

Deutsche medizinische Wochenschrift, Berlin

August 31, XXXVII, No. 35, pp. 1585-1632

123 History of Bronchoscopy ar Killian.
124 Indications for Endonasal oid Bone. (Indikation der endonasa und Ausräumung des Siebbeins.)
125 Difficulty in Removing the Tube After Diphtheria. (Erschwertes Dekanulement und Larynxatresie nach Diphtherie.) M. A. H. Martens.
126 Conservative Radical Operations on the Middle Ear. (Ueber konservative Radikaloperationen des Mittelohres.) L. Stacke.
127 *Improved Technic of Illumination of the Nasal Sinuses, Orbit and Middle Ear. (Neue Methode und neues Instrument für die Durchleuchtung des Siebbeinlabyrinths, der Kieferhöhle, des Mittelohres und der Augenhöhle.). A. v. Gyergyai.
128 *Relations Between Mouth Breathing and Pulmonary Tuberculosis. (Beziehungen der chronischen Nasenstenose zur Lungentuberkulose.) M. Rosenberg.
129 *Diagnosis and Treatment of Peritonsillitis. M. Levy.
130 Radiotherapy in Experimental Tuberculosis of the Eye. (Zur Einwirkung "strahlender Energie" auf die experimentelle Tuberkulose des Auges.) F. J. Flemming and F. Krusius.
131 Changes in the Blood with Simple Gastric Achylia. I. A. Waledinsky.
132 Roentgen Rays in Estimation of Gastric Acidity. (Zur Aziditätsbestimmung des Mageninhalts mittels des Röntgenverfahrens.) G. Schwarz.

127. **Technic for Illumination of the Nasal Sinuses, Orbit and Middle Ear.**—Gyergyai uses an electric lamp, the holder bent sideways at a right angle, this branch being long enough to be introduced to the depths of the maxillary sinus, close to the ear. He has applied it in thirty-eight cases and has been amazed at the instructive oversight thus permitted.

128. **Relations Between Mouth-Breathing and Pulmonary Tuberculosis.**—Rosenberg states that, besides its more familiar evils, chronic obstruction of the nose modifies the respiration in a way that materially favors bacterial invasion. The bacilli not only get into the lower air passages more readily but they find more favorable conditions for colonization, especially in the non-tuberculous shriveling of the right apex which is so common in mouth-breathers, called by *Krönig* "collapse induration." Rosenberg found this induration at the apex in eighteen of fifty cases of chronic obstruction of the nose, although there was nothing to suggest tuberculosis. Such persons are predisposed to tuberculosis on account

of this local change at the apex. If it is diagnosed as a mild tuberculous process and the patient is sent to a sanatorium for tuberculosis, he is almost certain to contract the disease which otherwise he might have escaped. Such cases explain the negative tuberculin reaction in some of the supposed tuberculous inmates of sanatoriums and the change to a positive reaction later. The obstruction in the nose may be the result of adenoids but deformity of the septum and hypertrophy of the turbinate bones may sometimes be incriminated. Rosenberg cites in conclusion Blümel's experience at the Görbersdorf sanatorium with seventy-five non-tuberculous inmates among the total 1,700 supposedly tuberculous; he discovered twenty-eight cases of this collapse induration in this group of seventy-five. From the Belzig sanatorium it has been reported that nasal affections were found in 84 per cent. and throat affections in 76 per cent. of 120 patients examined. Rivers in England in examining 500 persons found twice as many mouth-breathers among the consumptives as among the non-tuberculous. Rosenberg pleads in conclusion for prompt measures to relieve nasal stenosis and thus ward off these perils.

129. **Peritonsillitis.**—Levy remarks that with this affection the objective signs may be insignificant, especially when it is a recurrence. The first sign is usually slight protrusion of one tonsil. Palpation from without is often instructive; the glands may be swollen on both sides, even when the peritonsillitis involves but one side, and the glands may be very tender. The radiating of the pain to the ear is a constant and early symptom. The general symptoms are by no means so pronounced as with follicular tonsillitis, although there may be chill and some fever; the disturbance in swallowing is generally all the patients complain of. This with the limitation to one side generally differentiate the trouble. His experience with sixty cases showed that early incision had no effect in 33 per cent. of the cases, and he now waits for demarcation as a rule unless the pain is severe. In recurring peritonsillitis the supratonsillar fossa is generally the source of the trouble, and excision of the upper lobe of the tonsil puts an end to all disturbances. It is not necessary to remove the whole tonsil, he says.

Medizinische Klinik, Berlin

August 27, VII, No. 35, pp. 1337-1372 and Supplement

133 Simulation of Insanity. (Simulation von Geisteskrankheit.) J. Peretti.
134 *Dilatation of the Esophagus. (Zur Lehre von der Erweiterung der Speiseröhre.) W. Jüngerich.
135 Prophylaxis of Tabes Dorsalis. J. Lowinsky.
136 The "Nerve Point Theory" in Relation to Balneology. A. Cornelius.
137 *Fleas and Flea Traps. (Zur Naturgeschichte der Flöhe.) B. Harms
138 Digestive Diseases. (Pathologie und Therapie der Verdauungskrankheiten.) H Citron.

September 3, No. 36, pp. 1373-1408

139 *Internal Treatment of Gastric Ulcer. (Neuere Gesichtspunkte der internen Behandlung des Magengeschwürs.) K. Glaessner.
140 Nervous Diarrhea. T. G. Janowski.
141 Vaccine Therapy of Gonorrheal Prostatitis and Arthritis. J. Sellei.
142 Water Jet Vacuum Massage in Internal Medicine. (Verwendung der Wasserdruckmassage in der inneren Medizin.) W. H. Dreuw.
143 *Actinomycosis of the Bronchi. (Chronische Bronchialerkrankungen mit Ausschluss der Tuberkulose. XII.) A. Posselt. Commenced in No. 35.
144 Changes Undergone by Iodin Preparations in the Stomach and Upper Duodenum. L. Metzger.
145 Keratoma Palmare and Vitiligo. W. Friedländer.

134. **Dilatation of the Esophagus.**—Jüngerich thinks that greater attention should be paid to the neurasthenia underlying the dilatation of the esophagus in most cases. He relates his experiences with six patients, all but one being men between 24 and 56. Symptomatic treatment is necessary, repeated on recurrence of trouble. It is thus possible to keep the patients free from disturbances for many months at a time, even when a complete cure is not possible. The spasm of the cardia responsible for the trouble generally comes on suddenly; the frequent remissions of longer or shorter duration are characteristic, as also the alternation with spastic phenomena elsewhere and the impossibility of introducing the sound beyond the cardia at times, while at other times it slips smoothly in.

137. **Fleas and Flea Traps.**—Harms discusses the biology and natural history of the flea family and illustrates a little flea trap in common use in the Orient. It consists of a small stick smeared with a sticky substance, the stick inserted in a strip of bamboo, the sides cut out to leave only seven narrow strips. It acts on the principle of sticky fly paper, the bamboo shell keeping the sticky tube from contact with the clothing. The Chinese are said to strew a number of these tiny traps around the bed and wear them in their clothes.

139. **Medical Treatment of Gastric Ulcer.**—Glaessner estimates that only about 25 per cent. of patients with gastric ulcer are ever permanently cured by internal measures alone. He also calls attention to the fact that any gastric juice with an actual digestive action can maintain ulceration in the stomach: hyperacidity is not encountered oftener than in 43 per cent. of the cases with gastric ulcer. Study of the end-results after gastro-enterostomy has convinced the investigators that the benefit from this operation is due exclusively to the reflux of bile and pancreatic secretion into the stomach, thus washing the ulcer with bowel content. This, in connection with the regurgitation of intestinal juice into the stomach after pouring in oil and the benefit therefrom in gastric ulcer, suggests that internal administration of an artificially prepared intestinal juice might have a powerful curative action on gastric ulcer. Glaessner reports experimental research which confirms these views, even a 0.2 per cent. concentration of bile inhibiting digestion *in vitro*, notwithstanding the presence of large amounts of hydrochloric acid. He thinks these facts open new horizons for internal treatment of gastric ulcer.

143. **Actinomycosis of the Bronchi.**—Posselt expatiates on the extreme importance of an early diagnosis as in few affections is treatment so effectual. He reviews extensive experiences of his own and others; they show among other things that the apex of the lungs is occasionally the primary seat but that the bronchi are more often involved. The affection may attack children or adults and there is a comparatively harmless pseudoactinomycosis sometimes observed in the tonsil. Repeated examination of the nasopharynx and of the sputum may be necessary before the true origin of the bronchial affection is discovered, and he is convinced that systematic microscopic examination of the sputum in rural districts would show the disease to be far more frequent than is generally supposed; serologic methods may also aid in the differentiation. Once diagnosed, he gives potassium iodid and calls the surgeon at once, radiography pointing the way to effectual measures. Karewski insists that actinomycosis should be suspected in all cases of slowly developing swellings in the chest, especially in the rear and when preceded by signs of bronchitis, and a tuberculous process can presumably be excluded. He advises operative removal as bound to be successful in the early stages without metastasis.

Münchener medizinische Wochenschrift

August 29, LVIII, No. 35, pp. 1849-1896

146 *Polycythemia. (Ueber Hyperglobulie.) G. v. Bergmann and J. Plesch.
147 Bacterial Origin of Thrombosis and Encephalitis. (Ueber Venenthrombose und hämorrhagische Enzephalitis im Anschluss an bakteriologisch-anatomische Untersuchungen bei Sinusthrombosen—Komplikation mit Chlorose, Eklampsie.) J. Katzenstein.
148 *Hydrocephalus from Obstetric Standpoint. (Bedeutung des Hydrozephalus in der Geburt.) A. Rieländer.
149 Paralysis of the Stomach by General Anesthesia. (Lähmung des Magens durch die Inhalationsnarkose.) E. Mangold.
150 Properties of Coffee and Thum's Coffee-Bean-Cleansing Process. (Die besonderen Eigenarten des Kaffeegetränkes und das Thumsche Verfahren zur Kaffeereinigung und -verbesserung.) E. Harnack.
151 *Technic for Complete Evacuation of Pleural Effusions. H. C. Jacobaeus.
152 Influence of Deficient Oxygen on Blood Production. (Blutvermehrung durch Sauerstoffmangel.) E. Kuhn.
153 Anilin Poisoning. (Beitrag zur Anilinvergiftung.) W. Friedländer.

146. **Polycythemia.**—Bergmann and Plesch give the tabulated findings in three cases of polycythemia examined with the same detail as Senator's patient. They are inclined to regard the polycythemia as a compensating process in some cases.

148. Hydrocephalus in Obstetrics.—Rieländer discusses the various modes in which hydrocephalus may interfere with delivery, and the diagnosis of this anomaly in time at the birth. The main point in diagnosis is for the accoucheur to bear the possibility of hydrocephalus in mind. It is so rare an occurrence that it is seldom thought of as the explanation of the dragging of the birth, but it should be suggested when the head at the pelvic inlet is unusually broad with wide fontanelles and sutures which have a cystic feel. Or when the head shows no tendency to enter the pelvis even with vigorous contractions of the uterus. But one or the other of these three signs and all others mentioned in the textbooks may be lacking, as he shows by three typical cases described in detail. Only careful examination, eventually under general anesthesia, and careful weighing of the different symptoms will permit a true diagnosis. Treatment is very simple, merely to allow escape of the fluid by puncturing the fetal brain. Hammerschlag in his manual published last year stated that 20 per cent. of the mothers succumb—13 per cent. from rupture of the uterus and 7 per cent. from infection. The diagnosis is most difficult when the head presents first; the ineffectual labor keeps up for days, the accoucheur waiting while the impatient midwife keeps repeating her local examination. The uterus then ruptures or the woman's temperature rises. A history of hydrocephalus at a previous birth may be instructive.

151. Evacuation of Pleural Effusion.—Jacobaeus thinks that it is extremely important to remove the last traces of a pleural effusion, especially if it is purulent, and he has accomplished this in ten cases by the simple technic described. He introduces a trocar wide enough to permit the passage of a cystoscope through it. The trocar is inserted above the ninth interspace and most of the effusion is evacuated through it, air entering as the patient breathes, replacing the effusion. He then introduces through the trocar a small, soft ureter catheter, the tip weighted with lead. The air escapes readily between the walls of the catheter and the trocar, while the weighted tip drops to the lowest portion of the chest, and the last traces of the effusion can thus be aspirated. If there is thick pus, he pours in salt solution through the catheter and has found it useful to rinse out the cavity in this way in conclusion.

Wiener klinische Wochenschrift, Vienna

August 31, XXIV, No. 35, pp. 1235-1266

154 Neutral Sulphur in Urine as Test for Cancer. (Vorkommen des Neutralschwefels im Harn und seine Verwendung zur Karzinomdiagnose.) E. E. Pribram.
155 Serotherapy in Dentistry. (Ueber Anwendung des Deutschmann-Serums bei schweren dentalen Phlegmonen.) B. Mayrhofer.
156 Hernia in Abdominal Wall. (Kasuistischer Beitrag zur Kenntnis des subkutanen Intestinalprolapses.) E. L. Fieber.
157 Atypical Forms of Psoriasis. R. Volk. Commenced in No. 34.

Zentralblatt für Chirurgie, Leipsic

September 2, XXXVIII, No. 35, pp. 1177-1208

158 *Tube Speculum for Inspecting Peritoneum. (Das röhrenformige Spekulum bei der Bauchfellentzündung.) F. Kuhn.
159 *Technic for Closing the Intestine. (Zur Technik des operativen Darmverschlusses.) T. Voeckler.
160 Roentotherapy of Rhinoscleroma. A. R. v. R. Rydygier.

158. Speculum for the Peritoneum.—Kuhn has been using for some years a small tube speculum on the principle of those used for the vagina and rectum, and here expatiates on the instructive oversight thus obtainable. He introduces the speculum with an obturator, repeatedly withdrawing the latter and replacing it before proceding farther, or introducing a rectoscope lamp into the speculum. It is thus possible to inspect the small pelvis and the region behind the stomach, etc., as well as the different parts of the inflamed peritoneum. He always proceeds on the principle that the speculum must enter from a non-infected region, using a separate speculum at each point. A drain can be introduced through the speculum and left as the latter is withdrawn. To prevent inclusion of omentum, he sometimes covers the top of the drain with a layer of gauze. The small incisions, each containing its speculum, permit irrigation without pressure and prevent distention of the abdominal walls. He sometimes uses a more flaring speculum, open along one side, which permits introduction of an instrument.

159. Operative Closure of the Intestine.—The stump is tied with a single knot, like a rowboat hitch, untied by pulling on the longer end. The tied stump is then pushed in and the intestine drawn together over it with an ordinary purse-string suture. The first knot is then untied, leaving the invaginated stump free, without any dead space or burying of a foreign body or injury from the necrotic circle where the gut had been tied.

Zentralblatt für Gynäkologie, Leipsic

September 2, XXXV, No. 35, pp. 1233-1264

161 Benefit from Hypophysis Treatment in Case of Osteomalacia. M. Neu.
162 Functioning Ovary Without Menstruation. M. Ogorek.
163 *Acetone in Treatment of Inoperable Uterine Carcinoma. G. Gellhorn.

163. Treatment of Inoperable Cancer with Acetone.—Gellhorn says that he has not modified his technic described in THE JOURNAL, April 27, 1907, page 1400, and his experience since has amply confirmed the value of this means of influencing the local symptoms, improving the general health and prolonging life, while the technic of the procedure is extremely simple and the method is painless.

Zentralblatt für innere Medizin, Leipsic

September 2, XXXII, No. 35, pp. 857-880

164 Iodin Test, Based on Mohr's Reaction, for Gastric Acidity. (Ueber eine prinzipiell neue Methode zur Bestimmung der Säure des Magensaftes und ihre klinischen Vorteile.) E. Herzfeld.

Gazzetta degli Ospedali e delle Cliniche, Milan

August 27, XXXII, No. 103, pp. 1083-1098

165 Unreliability for Diagnosis of Butenko's Urine Test with Liquor Bellostii. C. Farmachidis.

August 29, No. 104, pp. 1099-1106

166 "Three-Day Fever" in Catania. G. De G. Giunta.

Policlinico, Rome

August 27, XVIII, No. 35, pp. 1097-1128

167 *Influenza in Pregnancy and the Puerperium. U. Rosi.

September 3, No. 36, pp. 1129-1160

168 *Hypophysis Treatment of Exophthalmic Goiter. (La cura ipofisaria del morbo di Basedow.) A. Salmon.

167. Influenza in Pregnancy and Puerperium.—Rosi has encountered fourteen cases of influenza in pregnant women and seven parturients with influenza. The fetus may be injuriously affected and the pregnancy may terminate prematurely or persist unduly long. Differentiation is important, especially in the puerperium, to avoid errors in treatment.

168. Hypophysis Treatment in Exophthalmic Goiter.—Salmon reports two cases, the patients women about 45; systematic hypophysis treatment induced such marked improvement that he regards this method of treatment as based on a sound basis, similar to the efficacy of thyroid treatment in deficient thyroid functioning.

Riforma Medica, Naples

August 28, XXVII, No. 35, pp. 953-980

169 Hypertoxicity of the Stool in Pneumonia. G. Breccia.
170 *Picric Acid for Sterilization of the Skin. (Dei recenti metodi di disinfezione della cute e di un nuovo metodo con soluzione alcoolica di acido picrico.) A. Fontana.

170. Sterilization of the Skin with Picric Acid.—Fontana uses a 1 per cent. alcoholic solution of picric acid for sterilization of the field of operation, and extols its advantages over other methods. It is as effectual, his tests seem to show, as the tincture of iodin method while it is much more convenient for sterilization of the hands. Both of these methods do away with the long scrubbing indispensable with other technics and which is so liable to chill the patient.

Hospitalstidende, Copenhagen

July 26, LIV, No. 30, pp. 825-856

171 *Gangrene in Infectious Diseases. K. M. Andersen.

171. Gangrene with Infectious Diseases.—Andersen's patient was a little girl who had gangrene of the leg about six weeks after the onset of an apparently mild scarlet fever. The progress of the gangrene compelled amputation while a superficial patch of gangrene on the thigh above healed. He has been able to find only five cases on record of gangrene complicating scarlet fever, but ninety-eight cases in which gangrene developed with other infectious diseases or lesions. Emboli were found only in eleven cases, autochthonous thrombi being responsible for the balance. He discusses the mechanism of the gangrene and in conclusion reports a case of gangrene in the course of osteomyelitis of the femur but the lesion healed in the course of a month. The trouble in both his cases was evidently the result of toxic changes or inflammation in the afferent vessels.

Norsk Magazin for Lægevidenskaben, Christiania

September, LXXII, No. 9, pp. 937-1000

172 Two Cases of Infantile Scorbutus. C. Looft.
173 *Test for Bile in the Blood. (Galdereaktion i blodserum til klinisk bruk.) A. Sunde.
174 Chromocystoscopy. N. Friis.

173. **Simple Test for Bile in the Blood.**—Sunde has found that it is possible to estimate the intensity of the admixture of bile with the blood with sufficient accuracy for all practical purposes by the length of time necessary for the color reaction to occur when the serum is treated with nitric acid. He has been thus testing the serum from seventy patients and comparing the findings with those from other tests. He used Scheel's modification of Gilbert's test, adding to 20 or 30 drops of the blood-serum, in a test-tube not over 10 mm. in diameter, a little of the reagent made by combining 300 parts nitric acid with 0.06 parts sodium nitrite. The reagent is allowed to flow down the side of the tube and a bluish ring forms at the junction of the two fluids. The interval before the bluish ring becomes evident varies from half a minute to thirty minutes when there is considerable bile in the blood, while with only small proportions the interval ranges from forty-five to sixty-five minutes or longer. It is possible thus to distinguish the pathologic from the non-pathologic cases; the shorter the interval the greater the probability of some local affection in the liver or bile passages interfering with the normal evacuation of the bile. In one case with colic suggesting gall-stones and a slight tendency to jaundice, the reaction occurred in ten minutes and a biliary lesion was assumed; but the urine findings pointed to pyelitis and radiography revealed large calculi in both kidneys. The enlarged right kidney in this case may be compressing the bile passages and thus inducing the cholemia indirectly, with intact biliary apparatus, but, more probably, the tendency to lithiasis involves both the bile and the urine systems.

Ugeskrift for Læger, Copenhagen

August 24, LXXIII, No. 34, pp. 1239-1274

175 Typhoid Epidemic in Danish Province, 1909. A. E. Kæmpegaard.

August 31, No. 35, pp. 1275-1308

176 Wright's Vaccine Therapy. K. Petersen.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

General Medicine. Edited by Frank Billings, M.S., M.D., Head of the Medical Department and Dean of the Faculty of Rush Medical College, Chicago, and J. H. Salisbury, A.M., M.D., Professor of Medicine, Chicago Clinical School. Volume VI, The Practical Medicine Series. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School, and Charles L. Mix, A.M., M.D., Professor of Physical Diagnosis in the Northwestern University Medical School. Series, 1911. Cloth. Price, $1.50. Pp. 342, with 15 illustrations. Chicago: Year-Book Publishers, 1911.

American Pocket Medical Dictionary. Edited by W. A. Newman Dorland, A.M., M.D., Member of Committee on Nomenclature and Classification of Diseases of American Medical Association. Containing the Pronunciation and Definition of All the Principal Terms Used in Medicine and the Kindred Sciences, Including Dentistry, Veterinary Medicine, Nursing, etc., with Over 60 Extensive Tables. Seventh Edition. Leather. Price, $1 net. Pp. 643. Philadelphia: W. B. Saunders Co., 1911.

Dysentery and Liver Abscess in Bombay. Being the Report of an Enquiry Carried Out by Major E. D. W. Greig, M.D., D.Sc., I.M.S., and Captain R. T. Wells, M.A., M.B., I.M.S., Under the Direction of the Director, Central Research Institute, Kasauli. Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India. No. 47. Issued Under the Authority of the Government of India by the Sanitary Commissioner with the Government of India, Simla. Paper. Price, 3 shillings. Pp. 78, with illustrations. Calcutta: Superintendent Government Printing, India, 1911.

Malaria in the Punjab. By Major S. R. Christophers, M.B., I.M.S., Assistant to the Director, Central Research Institute, Kasauli. Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India. No. 46. Issued Under the Authority of the Government of India by the Sanitary Commissioner with the Government of India, Simla. Paper. Price, 3 shillings. Pp. 125. Calcutta: Superintendent Government Printing, India, 1911.

A System of Medicine. By Many Writers. Edited by Sir Clifford Allbutt, K.C.B., M.A., M.D., Regius Professor of Physic in the University of Cambridge, and Humphry David Rolleston, M.A., M.D., F.R.C.P., Senior Physician, St. George's Hospital, Cambridge. Volume VIII. Diseases of the Brain and Mental Diseases. Cloth. Price, $6 net. Pp. 1070, with illustrations. New York: The Macmillan Co., 1911.

Sewage Pollution of Interstate and International Waters. With Special Reference to the Spread of Typhoid Fever. 1. Lake Erie and the Niagara River. By Allan J. McLaughlin. Bull. 77, Hygienic Laboratory. P. H. and M.-H. S. of the United States. Paper. Pp. 169. Washington: Government Printing Office, 1911.

A Text-Book of Medical Chemistry and Toxicology. By James W. Holland, A.M., M.D., Professor of Medical Chemistry and Toxicology, and Dean, Jefferson Medical College, Philadelphia. Third Edition. Cloth. Price, $3 net. Pp. 655, with 112 illustrations. Philadelphia: W. B. Saunders Co., 1911.

A Text-Book of Physiology. For Medical Students and Physicians. By William H. Howell, Ph.D., M.D., Sc.D., Professor of Physiology in the Johns Hopkins University, Baltimore. Fourth Edition. Cloth. Price, $4 net. Pp. 1018, with 360 illustrations. Philadelphia: W. B. Saunders Co., 1911.

A Text-Book of the Practice of Medicine. By James M. Anders, M.D., Ph.D., LL.D., Professor of Medicine and Clinical Medicine at the Medico-Chirurgical College, Philadelphia. Tenth Edition. Cloth. Price, $5.50 net. Pp. 1328, with 81 illustrations. Philadelphia: W. B. Saunders Co., 1911.

A Manual of the Practice of Medicine. Prepared Especially for Students. By A. A. Stevens, A.M., M.D., Professor of Therapeutics and Clinical Medicine in the Woman's Medical College of Pennsylvania. Ninth Edition. Leather. Pp. 553. Philadelphia: W. B. Saunders Co., 1911.

The Treatment of Fractures. With Notes on a Few Common Dislocations. By Charles Locke Scudder, M.D., Surgeon to the Massachusetts General Hospital. Seventh Edition. Cloth. Price, $6 net. Pp. 708, with 990 illustrations. Philadelphia: W. B. Saunders Co., 1911.

Rudiments of Refraction. A Reprint of a Series of Papers on Refraction Originally Printed in Physician's Drug News and Office Practitioner. By C. A. Button, M.D. Cloth. Price, $1. Pp. 131, with 11 illustrations. Newark, N. J.: Physicians' Drug News Co. (1911).

A Reference Handbook of Obstetric Nursing. By W. Reynolds Wilson, M.D., Visiting Physician to the Philadelphia Lying-In Charity. Second Edition. Leather. Price, $1.25 net. Pp. 256, with 61 illustrations. Philadelphia: W. B. Saunders Co., 1911.

The Physiological Standardization of Ergot. By Charles Wallis Edmunds and Worth Hale. Bull. 76, Hygienic Laboratory. P. H. and M.-H. S. of the United States. Paper. Pp. 58. Washington: Government Printing Office, 1911.

Educational Opportunities in Chicago. A Summary Prepared by the Council for Library and Museum Extension. [A. G. S. Josephson, Secretary, John Crerar Library.] Chicago, June, 1911. Paper. Pp. 80, with illustrations.

Transactions of the American Association of Obstetricians and Gynecologists. For the Year 1910. Vol. XXIII. Cloth. Pp. 583, with illustrations. William Warren Potter, Secretary, 238 Delaware Avenue, Buffalo, N. Y., 1911.

Rural Hygiene. By Henry N. Ogden, C.E., Professor of Sanitary Engineering in College of Civil Engineering, Cornell University. Cloth. Price, $1.50 net. Pp. 434, with 78 illustrations. New York: The Macmillan Co., 1911.

Nursing in the Acute Infectious Fevers. By George P. Paul, M.D., Town Health Officer, Round Lake, N. Y. Second Edition. Cloth. Price, $1 net. Pp. 246, with illustrations. Philadelphia: W. B. Saunders Co., 1911.

Collected Papers by the Staff of St. Mary's Hospital Mayo Clinic, Rochester, Minn., 1910. [Second volume.] Cloth. Price, $5.50 net. Pp. 633, with illustrations. Philadelphia: W. B. Saunders Co., 1911.

Forty-First Annual Report of St. Luke's Home and Hospital in the City of Utica [New York]. October, 1910. With the Names of Officers for the Ensuing Year. Paper. Pp. 56, with illustrations.

A Statistical Survey of Infant Mortality's Urgent Call for Action. By Edward Bunnell Phelps, M.A., F.S.S., 141 Broadway, New York. Editor The American Underwriter, New York. Cloth. Pp. 27.

The Twenty-Ninth Annual Report of the Sheltering Arms of the Protestant Episcopal Church in the City of Philadelphia, 717 Franklin Street. Jan. 1, 1911. Paper. Pp. 23.

The Battle Creek Sanitarium System. History, Organization, Methods. By J. H. Kellogg, M.D., Superintendent, Battle Creek, Mich., 1909. Paper. Pp. 215, with illustrations.

Observations on the Natural History of Epidemic Diarrhea. By O. H. Peters, M.D., D.P.H. Cloth. Price, $2.25 net. Pp. 177. New York: G. P. Putnam's Sons, 1911.

The Journal of the
American Medical Association
Published under the Auspices of the Board of Trustees

VOL. LVII, No. 16 CHICAGO, ILLINOIS OCTOBER 14, 1911

AN EXTRA-ABDOMINAL MULTILOCULAR OVARIAN CYST *

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BALTIMORE

Several months ago, Dr. Frank R. Smith asked me to see a woman who had a kidney-shaped tumor slightly below and to the right of the umbilicus. The patient had noticed a small lump in this situation several years before, which for a long while had remained quiescent but during the last year had gradually increased in size. At operation it was found to be a partly solid, partly cystic tumor of the ovary lying external to the abdominal muscles, the tumor and its surrounding sac being covered over with a small amount of adipose tissue and the skin. The pedicle of the tumor passed through a hernial ring to the outer side of the right rectus and obliquely across the lower abdominal cavity to what corresponded to the normal insertion of the right utero-ovarian ligament.

I have been unable to find any reference to a similar case in the literature.

History.—Mrs. M. W., aged 56, was a short, well developed woman, and, apart from a tumor mass in the lower abdomen, was in excellent health. She had had eleven children. Her periods had ceased at 50. She had felt some pain in the right ovarian region for fifteen years, and for about ten years she had noticed a little tumor situated in the right lateral abdominal wall slightly above a line drawn between the umbilicus and the anterior superior spine. This, from her description, seemed to have been about the size of an ovary. During the last ten months this small lump had increased in size until it formed a lobulated mass, elongate in form, about 10 by 8 cm. It seemed to be but a short distance beneath the skin and could be lifted up to some extent in the hand, but its absolute relationship could not be determined on account of the presence of a considerable amount of adipose tissue.

Operation.—Nov. 1, 1910, on making a pelvic examination, under anesthesia I found that the uterus was normal and that there was no thickening laterally. Not being sure of the exact condition, I made a median incision. The uterus was normal, the left tube and ovary presented the usual appearance. The right tube showed no change, but the right utero-ovarian ligament was markedly drawn out into a band about 1 cm. broad. This led to a hernial opening with smooth margins in the right lateral abdominal wall below and to the right of the umbilicus, but at least 12 cm. from the inguinal region (Fig. 1). After obtaining good exposure I found that this flattened band of the utero-ovarian ligament passed directly into a hernial opening about 2.5 cm. in diameter, and into this opening a finger could readily be introduced. The intra-abdominal portion of the pedicle was clamped off and sutured. An incision was then made over the prominent part of the abdominal tumor, which proved to be extra-abdominal. The more prominent part of this tumor lay directly beneath the skin in the adipose tissue, and was very easily freed by blunt dissection to the point where the hernial ring entered the abdomen. I then cut the *peritoneum around the hernial ring and delivered the tumor,* with its peritoneal covering intact. The space where the tumor had existed having been obliterated and the inner incision having been sutured, the outer wound was also closed. The ovarian tumor was multilocular.

There had evidently been a hernial protrusion through the right lateral abdominal wall, into which the ovary had dropped and remained for several years. During the last year it had increased in size and given rise to a multilocular ovarian cyst. Naturally with the increase in size, the escape of the ovary from the sac was impossible.

Macroscopic Examination of Hardened Specimen (Path. No. 15,723).—The hernial opening was about 2.5 cm. in diameter. Its margins consisted of peritoneum, outside of which was a zone of adipose tissue. The tumor itself was kidney-shaped (Fig. 2) 12 cm. long, 7 cm. broad, and 6 cm. in thickness. It was covered everywhere with peritoneum, which could be readily separated from it. Here and there attached to the outer surface of the peritoneum were tags of adipose tissue. The tumor itself was in large measure solid, resembling a fibroma. It presented a lobulated appearance. Here and there between nodules it showed cystic spaces, oblong, irregular, or round, varying from 2 mm. to 2 cm. in diameter. The majority of these were transparent and contained clear fluid. Some of them were slightly blood-tinged. So much could be made out through a window, which was cut in the peritoneum. On peeping in through the hernial ring, were seen cysts varying from 2.5 cm. to 3 cm. in diameter and apparently filled with clear fluid. After the drawing had been made the tumor was cut in two. The appearance on section is well shown in the drawing in the right upper corner of Figure 2.

Histologic Examination.—The solid portion of the tumor consisted in large part of fibrous tissue containing triangular or spindle-shaped nuclei. In some places the nuclei were abundant, in others scanty in number. The tissue showed a considerable degree of hyaline degeneration. At one or two points characteristic ovarian stroma was still in evidence. No Graafian follicles could be found, but after an examination of numerous sections a typical corpus fibrosum was noted. In some sections a few bundles of non-striped muscle were visible. The stroma had a meager blood-supply except in a few areas, where there were groups of rather large veins.

Scattered sparingly through the stroma were small circular or irregular glands occurring singly or in groups of two or three. They were found to be lined with cylindrical epithelium and were similar to those so frequently noted in the hilum of the ovary. Some of the very small cystic spaces, noted macroscopically, were lined with cylindrical ciliated epithelium and had an underlying stroma that stained rather deeply and that consisted of cells with oval vesicular nuclei. This stroma stood out in sharp contrast to the surrounding fibrous tissue. Such cysts frequently contained a little fairly fresh blood. These cysts reminded one very much of the cystic spaces so frequently noted in an adenomyoma, but I believe that they represented only the earlier stages of the larger cysts.

The large cysts were lined with one layer of epithelium which might be cylindrical, cuboidal or almost flat. *Projecting into some of the cysts were papillary folds.* These occasionally occurred as delicate, irregular, finger-like projections, but in the main as blunt, single or branching outgrowths. All of them were covered over with one layer of epithelium. The stroma of the papillary masses had in many places undergone almost complete hyaline degeneration, and in a few liquefaction of this hyaline material had taken place. Even in some of the larger cysts a moderate amount of fresh blood was present. The stroma cells beneath the cyst epithelium had in some places become swollen and spherical and were filled with yellow or brown pigment indicating the absorption of blood at some previous time.

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* From the Gynecological Department of the Johns Hopkins Hospital.

On the surface of the tumor were a moderate number of vascular adhesions, and on the under and protected side of these the peritoneal cells had become cuboidal as is common on the under side of tubal or ovarian adhesions.

From the above description it will be seen that the dense matrix of the tumor consisted essentially of fibrous tissue and that scattered throughout this were multiple cysts, in large measure similar in character, some of which had small papillary masses projecting into them. Had the tumor developed in the abdominal cavity, I believe that in all probability it would have been a multilocular cystoma, but as it lay between the abdominal muscles and skin a rapid cystic growth was much more difficult, and the fibrous tissue was thus allowed to keep pace with the cystic formation.

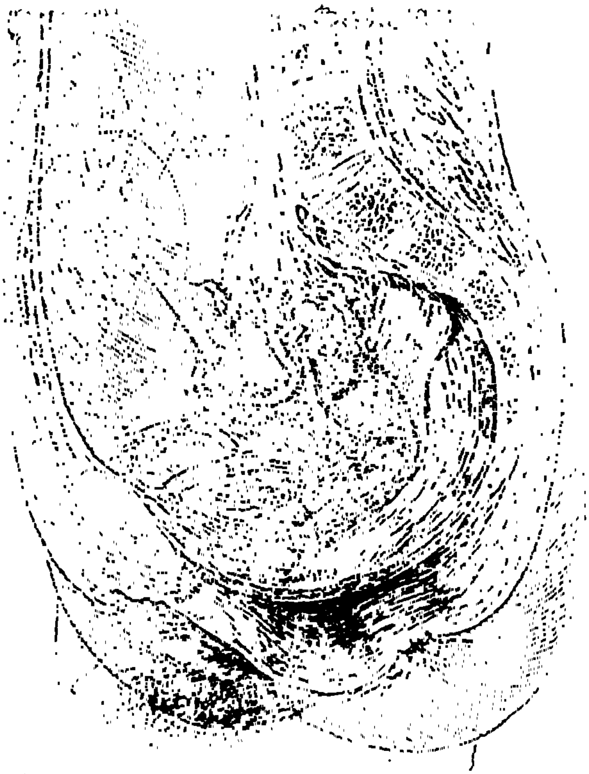

Fig. 1.—OVARIAN PEDICLE PASSING FROM UTERUS, OUT THROUGH A HERNIAL RING IN THE ABDOMINAL WALL. A schematic representation of the pelvic structures as found at operation. The uterus and left appendages were normal. The right tube was unaltered, but passing from the uterus where the right ovary should have been was a band 1 cm. broad. This ran upward and outward and passed out through an abdominal ring to the outer side of the right rectus. At the ring a finger could be passed completely around this pedicle. It was nowhere adherent to the ring. A glance at the umbilicus will indicate the exact location of the ring. On looking through the ring a small portion of the glistening tumor could be readily seen. The dotted line indicates the relative size of the tumor.

There was no sign of malignancy.

THE PRESENCE OF OVARIES IN HERNIAL SACS

The occurrence of ovaries and ovarian tumors in hernial sacs is of particular interest in this connection. I shall, therefore, briefly discuss the more important contributions made in this field.

The ovary has a rather free excursus, and it is not to be wondered at that where an inguinal or femoral hernia exists the ovary and often the tube form part of the contents of the hernial sac. Puech[1] in 1879 contributed a most interesting article on hernia of the ovary. In addition to his own cases, he refers to those of Pott, Lassus, Deneux, Guersant, Parker, Bruny, Warren, Méadows, Cusco, Coote, Englisch, Weinlechner, MacCluer, Sonnenburg, Werth and Rheinstaedter. In brief his paper says that the ovary may pass out at any of the natural abdominal openings, and that, when it does so, it is most frequently by way of the femoral or inguinal ring. The inguinal hernia, which is the more frequent, may be congenital or accidental. The congenital hernia is produced by a condition analogous to the descent of the testicle. In eighty-eight cases of hernia containing the ovary, fifty-four were incontestably congenital, seventeen doubtful and seventeen accidental. The congenital hernias were unilateral in twenty-seven cases, bilateral in twenty-seven cases. In the unilateral cases the left side was more frequently involved. In cases of double hernia the presence of the ovaries in the hernial sac was sometimes associated with defective development of the generative organs. Puech had records of sixteen cases in which the ovary was contained in a femoral hernia. In eleven of these cases the hernia was on the right side and in four on the left.

The uterus or one of its cornua was found ten times in the sac in cases of inguinal hernias, three times among the femoral hernias.

Dr. Joseph C. Bloodgood tells me that he has had two cases of femoral hernia with the ovary lying in the hernial sac.

Several years ago I operated on a child in Cambridge for an inguinal hernia. The sac contained the right tube and ovary. They were so intimately blended with the sac that it was impossible to save them, and they were removed preparatory to doing a radical operation.[2]

My experience with ovaries in hernial rings associated with lack of development of the generative organs has been limited to one case.[3]

A postoperative hernia occasionally contains an ovary. I reported a case of this character several years ago.[4] The patient had had an appendix abscess, which it had been necessary to drain liberally. The resultant hernia in the scar was very tender and in dissecting it out I found that the sensitiveness was due to the presence of the right ovary contained in and adherent to the hernial sac.

OVARIAN TUMORS DEVELOPING IN THE INGUINAL CANAL

Since one or both ovaries may occasionally be found in the inguinal canal, we should not be surprised to find now and then a case in which such an ovary undergoes tumor development. Rheinstaedter[5] in 1878 reported the case of a woman, 68 years of age, who had an elongate oval tumor in the neighborhood of the clitoris. In addition, there was a right-sided globular mass, which was found to be a right inguinal hernia. The oval tumor was larger than a child's head, elastic and apparently fluctuant. The overlying skin was normal. A probable diagnosis of ovarian tumor in a left inguinal hernia was made. Six months later the left hernial sac was opened. The tumor was easily raised and its broad pedicle apparently containing the tube and round ligament was tied off, some adherent loops of small bowel were loosened and pushed up into the abdomen, and the wound closed. The tumor weighed 750 gm. Careful examination of the right hernia revealed the presence of the ovary in the sac.

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[1] Puech, A.: Nouvelles recherches sur les hernies de l'ovaire; Ann. de gynéc., Paris, 1879, xi, 401.

[2] This case was reported and illustrated in an article published by Dr. Frank T. Andrews (Hernia of the Ovary and Tube, THE JOURNAL A. M. A., Nov. 24, 1906, p. 1707). Dr. Andrews' article gives an excellent résumé of hernia of the ovary and tube, and likewise contains a long tabulation of cases heretofore observed.

[3] Cullen, Thomas S.: A Right Pelvic Kidney; Absence of the Left Kidney; Absence of the Uterus, Both Ovaries in the Inguinal Canals, Surg. Gynec. and Obst., July, 1910, p. 73.

[4] Cullen, Thomas S.: The Right Ovary in the Abdominal Scar Following [illegible] Abscess, May, 1906, Bull. Johns [illegible] 2.

[5] [illegible] Angiosarkoma Ovarii in einem [illegible] 1878, ii, 545.

Marchand, who made the microscopic examination, diagnosed the tumor as an angiosarcoma.

Rheinstaedter, in reviewing the literature on the subject, was able to find only one case in which an ovarian tumor in an inguinal hernia reached the size of a child's head. This was the case observed by Cazati and quoted by Beigel. The hernial sac contained a portion of an ovarian cyst, the remainder of which lay in the pelvis.

Of solid ovarian tumors contained in hernias he mentions only a case of Guersant reported by Englisch.

Fargas,[6] in 1890, described the case of a woman, aged 38, who had a tumor the size of a man's head occupying the right inguinal and labial region. On the left side was an inguinal hernia containing an ovary, which was easily reducible. The patient said that until eight years previous the right side had presented the same appearance as the left, and Fargas, therefore, diagnosed the tumor as a right-sided ovarian cyst. Six years prior to *observation the right hernia had become irreducible*, and after that had gradually increased in size.

The hernial sac was opened and the cyst lay free from adhesions. Its pedicle was tied off as in an ordinary ovariotomy and the tumor removed. The patient made a good recovery. The cyst was reticulated (multilocular). Fargas confessed that it might have been confounded with a cyst of the round ligament, but its topography *rendered its source certain. The woman had had* normal menstruation and had borne two children during the existence of this tumor.

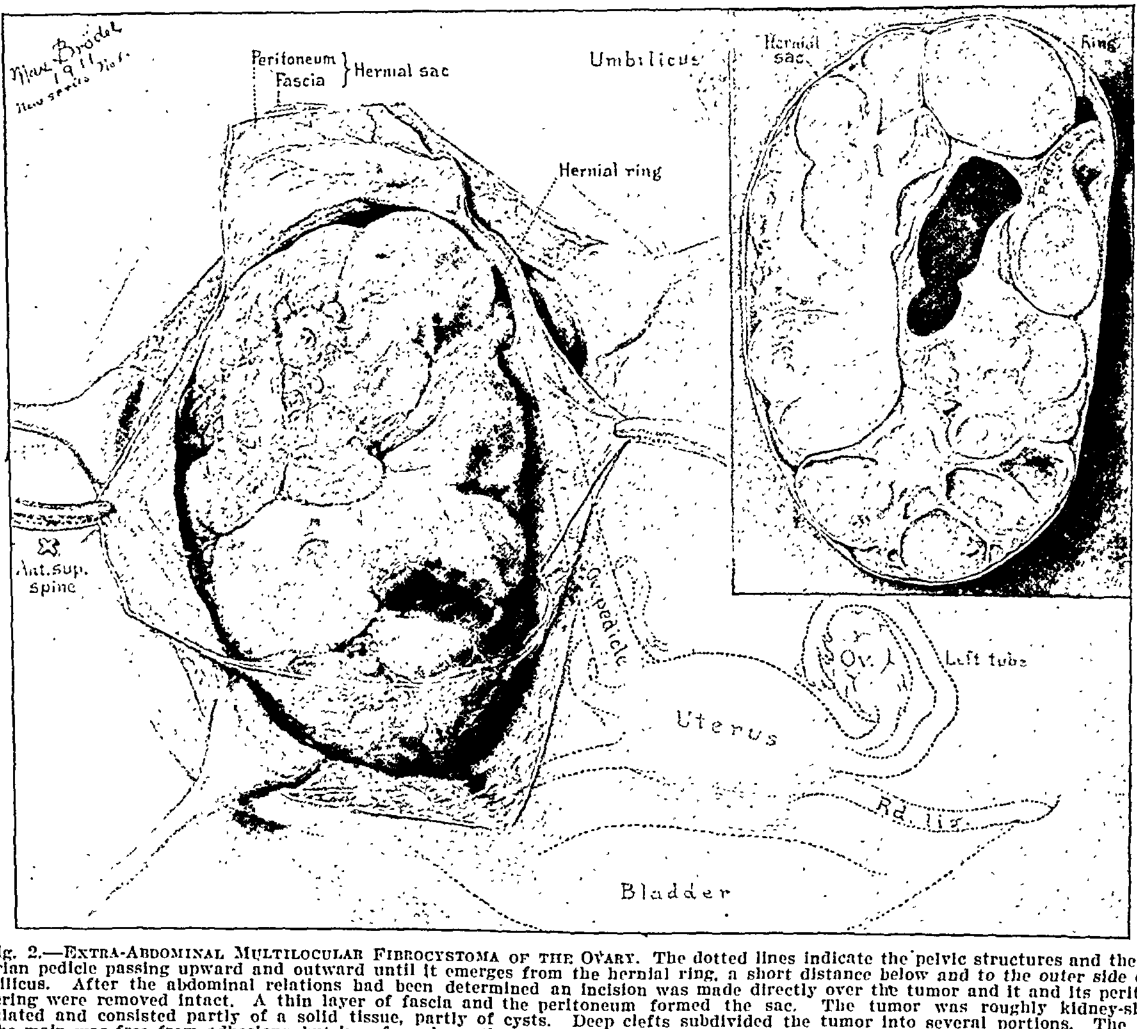

Fig. 2.—EXTRA-ABDOMINAL MULTILOCULAR FIBROCYSTOMA OF THE OVARY. The dotted lines indicate the pelvic structures and the right ovarian pedicle passing upward and outward until it emerges from the hernial ring, a short distance below and to the outer side of the umbilicus. After the abdominal relations had been determined an incision was made directly over the tumor and it and its peritoneal covering were removed intact. A thin layer of fascia and the peritoneum formed the sac. The tumor was roughly kidney-shaped, lobulated and consisted partly of a solid tissue, partly of cysts. Deep clefts subdivided the tumor into several portions. The tumor in the main was free from adhesions, but in a few places there were points of union between the tumor and the peritoneal covering. The drawing in the *right upper corner shows the tumor* on section. The fibrous tissue is abundant, but at this level the cysts predominate. The clefts are seen to have extended through the tumor. It was possible to lift the various segments out without disturbing the remaining ones. Figure 3 gives the real form of the tumor when liberated from pressure.

Seymour[7] in 1897 reported the case of a woman aged 48. Two years before coming under observation a small *tumor had appeared in the right groin.* It was somewhat sensitive, hard and irreducible. An inguinal hernia with possibly an incarcerated omentum without strangulation was thought of. At operation the tumor was found attached to the uterus by a pedicle, 4 inches long and ¾ inch in diameter. This passed out through the inguinal ring to the under surface of the upper end of the tumor in the inguinal canal. The pedicle was tied off and the sac closed. The tumor was ovoid in shape, 4 inches in length and 8 inches in circumference. The microscopic report was spindle-celled sarcoma.[8]

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[6] Fargas: Note sur un cas de hernie inguino-labiale de l'ovaire droit avec gros kyste réticulaire du même organe, Arch. de tocol., Paris, 1890, xvii, 767.

[7] Seymour: *Hernia of a Sarcomatous Ovary*, Tr. Med. Soc. State of N. Y., 1897, p. 370.

AN OVARIAN CYST PROTRUDING INTO THE INGUINAL CANAL

Baldy[9] in 1898 reported an interesting case of this character. Two years before coming under Baldy's observation the patient had noticed a small pedunculated tumor in the right inguinal region. This had continued to grow until it was as large as an egg and had then been removed. A year later a larger and similar growth had been present and had also been removed. When Baldy saw the patient the growth was as large as a fist. A pelvic examination revealed a mass filling the right side of the pelvis.

At operation, an incision was made directly over the growth and the tumor freed down to a thick, broad, short pedicle which passed into and through the inguinal canal. The attachments of the pedicle in the canal were freed and the finger forced into the abdomen when it was found that the tumor was a continuation of a large intra-abdominal mass.

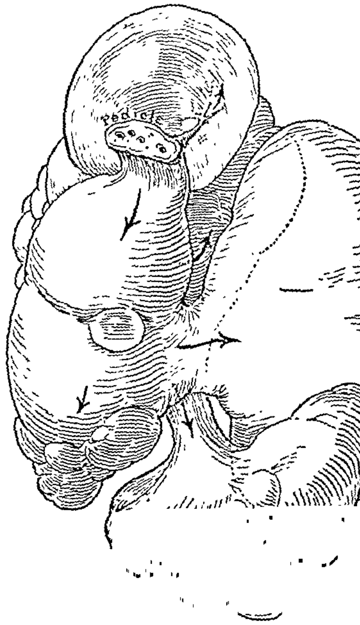

Fig. 3.—An Extra-Abdominal Multilocular Fibrocystoma. A schematic representation of the manner in which the tumor tended to develop when relieved from its surrounding pressure. It in reality consisted of four lobes similar in character and joined together by broad or narrow pedicles.

When the abdomen was opened in the median line, the pedicle of the inguinal growth was found springing from a large intraligamentary tumor similar in character. The left uterine appendages were normal. A supravaginal hysterectomy was performed and the hernial ring closed. The patient made an uninterrupted recovery.

AN OVARIAN CYST LYING PARTIALLY IN A FEMORAL HERNIA

This condition is exceptionally rare. Dellhaes[10] in 1885 cited the case of a woman, aged 55, who entered the hospital in 1879 on account of ascites. For four years she had complained of discomfort in the lower abdomen, and there had been an increase in size in the right side. Thereafter she had had a crural hernia on the right side and for the last nine months a similar hernia on the left. The right was reducible, the left irreducible.

After the patient had been built up to some extent and after the ascitic fluid had been removed several times by puncture, a right-sided ovarian tumor, partly solid, partly cystic, was removed.

The left ovary was cystic and enlarged. It was partly situated in the pelvis and had to be separated from a solid cord which passed into the femoral canal. The major portion of the large cystic left ovary lay in the fold of the groin and fourteen days later was removed through a herniotomy incision. This portion was as large as a child's head. The patient made a complete recovery.

A SMALL PORTION OF AN OVARIAN CYST INCARCERATED IN THE ABDOMINAL WALL JUST BELOW THE UMBILICUS

Hopkins[11] in 1894 reported an interesting emergency case. The patient, aged 57, was admitted for a supposed strangulated umbilical hernia. Protruding just below the umbilical opening was an almost black tumor the size of a walnut. Still thinking that it was a strangulated hernia, the operator cut the constricting band and the tumor at once disappeared. The abdominal opening was enlarged and serous and gelatinous material began to pour out. On further exploration a multilocular ovarian cyst, weighing about 25 pounds, was found. This was removed and the patient promptly recovered.

A small portion of this cyst had become strangulated in a small hernial defect just below the umbilicus.

DEFECTS IN THE ABDOMINAL WALL

A study of the weak spots in the abdominal wall is of interest. Levadoux[12] made a most exhaustive examination of the inner appearance of the umbilicus, of the final disposition of the umbilical arteries, the umbilical vein and the urachus, and described in detail how these sometimes blended in such a manner as to form a fibrous sheath that completely covered over the inner umbilical opening. In the course of his studies he also noted weak spots in the fascia just beneath the peritoneum. These openings were usually small and were oval, round or irregular in shape.

On careful scrutiny it has at times been noted that hernias, supposed to be umbilical, were in reality periumbilical and that the umbilicus itself was intact. These defects in the fascia are undoubtedly the cause of such hernias. In July, 1910, I saw, in consultation with Dr. A. H. A. Mayer, a boy, aged 17, who had a small hernial protrusion 4 cm. above and to the left of the umbilicus. This hernial protrusion projected 1 cm. through the fascia and was lobulated, forming a mass 3 cm. in diameter. The patient was of spare build. On cutting down on the hernial sac I found a small defect in the abdominal wall with a small portion of the omentum projecting through it. The omentum was readily returned and the opening easily obliterated with a few sutures.

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[8] If the fibrous character of a solid ovarian tumor is definite, one is safe in making a diagnosis of fibroma, and if the growth consists of spindle cells and has many mitotic figures and atypical cell changes, one can with justice make a *diagnosis* of sarcoma. There are, however, quite a number of solid tumors of the ovary of the spindle-celled type, in which it is impossible to say from the microscopic examination whether the growth is a sarcoma or a fibroma. In such cases the diagnosis can never be definitely determined unless the patient subsequently develops metastases.

[9] Baldy, J. M.: Ovarian Cyst Protruding Through the Inguinal Canal, Am. Jour. Obst., 1898, xxxviii, 827.

[10] Dellhaes: Eine Hernia cruralis cystovarii sinistri, Ztschr. f. Geburtsh. u. Gynäk., 1885, xi, 389.

[11] Hopkins, George G.: An Ovarian Cyst Simulating a Strangulated Umbilical Hernia., Boston Med. and Surg. Jour., July 26, 1894, p. 84.

[12] Levadoux, Michel-Joseph: Variétés de l'ombilic et de ses annexes, Thèse Fac. de Méd. et d Pharm. de Toulouse, 1907, No. 711.

Dr. Bloodgood tells me that he observed a case of hernia of the abdominal wall at the semilunar line, that was between the rectus muscle and those forming the lateral abdominal wall. The sac contained non-adherent loops of small bowel. The condition was readily cured. In our case the opening was also at, or near, the semilunar line, and instead of small bowel passing into it the ovary had for some reason occupied the space and later had gone on to tumor development. It is just possible that this weakness in the wall had become particularly accentuated during a pregnancy and that the ovary during its ascent with the pregnant uterus had dropped into the cavity.

In conclusion, I wish to thank Dr. Fred Ray for his kindness in ferreting out the references to the articles read by me in the preparation of this paper, and I am especially indebted to Mr. Max Brödel and the Foundation of Art in Medicine of the Johns Hopkins Medical School for the excellent illustrations.

SOME APPARENTLY OBSCURE CONDITIONS OF THE GASTRO-INTESTINAL TRACT AND THE PRACTICAL APPLICATION OF THE RÖNTGEN RAY IN THEIR DIAGNOSIS *

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We are not dealing with the obscure conditions of the gastro-intestinal tract as they arise, but mostly with the common pathologic states, often misinterpreted on account of the unsatisfactory methods of diagnosis at the present day. The subject is so broad that we have decided to restrict our paper to the size, position, and motility of the gastro-intestinal tract. Normal patients, or patients with splanchnoptosis with or without intestinal symptoms, constitute our particular theme. Cases of ulcer and malignancy have been omitted on account of limitations of space.

All the cases under consideration have been studied first with regard to the physical signs and the ordinary tests for gastro-intestinal secretions and contents. The Röntgen ray has been used as *an aid and confirmatory* agent in diagnosis. Whereas due consideration in every case has been given to the history, subjective and objective signs, and examination of secretions, we have found progressively downward and they become confirmed the previous diagnosis, it has also shown the error of the previous diagnosis in an astonishing number of cases. A great difficulty in gastro-enterologic work has been the lack of certainty in the results of clinical tests for size, position, and motility of the hollow viscera. The Röntgen ray solves this problem. Every day we meet patients with moderate or severe grades of constipation, not due to obstructions from tumors. They have usually gone the rounds of numerous physicians or dispensaries, and are relieved only by the continuous use of laxatives or cathartics. Their course is nearly always progressively downward and they become confirmed neurasthenics or slaves to the drug habit. Occasionally, without any scientific accuracy on the physician's part, these patients, if they are fortunate, improve by treatment on general principles.

In previous examinations, chemical tests for motility of the stomach and intestine have been unreliable. Peristalsis of the stomach and intestine sometimes can be seen through an abdominal wall that has been thinned out, usually in advanced emaciation. The entire length of time that food takes to pass from the mouth to the anus can be determined by the ingestion of indigestible and non-absorbable foods or chemicals, such as bismuth salts, which can be recognized in the stools. This does not indicate, however, the length of time consumed in digestion by the different portions of the alimentary tract, and is often inaccurate in determining the time of digestion. Tests for determining residual food in the stomach are tedious and very annoying to the patient, and determine only approximately the final result. This, with our other important data, can be shown by the Röntgen ray, in a properly conducted series of plates.

Radiographs of the alimentary tract after the administration of some insoluble substance which obstructs the Röntgen ray, such as the bismuth salts, have been used in Europe since 1904, by Rieder,[1] Holzknecht,[2] C. Kaestle and J. Rosenthal,[3] Franz M. Groedel,[4] A. F. Hertz,[5] and others; and in this country by G. E. Pfahler,[6] Hulst,[7] Pancoast,[8] Cole,[9] and others. The methods will soon be universally applied. Rieder was the first to give large amounts of bismuth salts. He gave from 40 to 50 gm. of bismuth subnitrate in a meal of boiled rice, barley broth, potato puree, spinach, or boiled meat. The bismuth can be administered by mouth or by rectum. Haenisch[10] was the first to give the bismuth per rectum, in the following formula: bismuth subcarbonate 75 gm., bolus alba 300 gm., water 1,000 c.c. We use the bismuth rectal injection and find it a valuable adjuvant to the method by mouth. Kaestle used zirconium oxid instead of bismuth because it was more insoluble. Of the salts of bismuth, the subnitrate was at first extensively used, but it has caused toxic symptoms. Cases of poisoning due to the impurities in the preparation, or to the absorption of the nitrites formed in the intestine, have been reported by E. G. Beck,[11] W. Alexander,[12] L. Lewin,[13] and many others. The subcarbonate of bismuth is apparently non-poisonous and acts in the same way as the subnitrate toward the Röntgen ray. We have had no toxic symptoms in over forty tests in which large quantities were given. Examination of the bismuth stool shows the bismuth passed through chemically unchanged.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

* From the Edward N. Gibbs Memorial X-Ray Laboratory and the Marcellus Hartley Foundation in Medicine.

1. Rieder, H.: München. med. Wchnschr., August, 1904.
2. Holzknecht: Berl. klin. Wchnschr., Jan. 29, 1906; also: Mitt. a. d Lab. f. radiol. Diag. u. Therap., Vienna, No. 1, 1906.
3. Kaestle, Reider and Rosenthal: Arch. Röntg. Ray, June, 1910.
4. Groedel, F. M.: Arch. Röntg. Ray, September, 1910, p. 156.
5. Hertz, A. F.: Discussion on Groedel's paper, Arch. Röntg. Ray, September, 1910.
6. Pfahler, G. E.: THE JOURNAL A. M. A., Dec. 21, 1907, p 2069.
7. Hulst: Physician and Surg., Detroit, 1905, xxvii, 391.
8. Pancoast: Univ. of Penn. Med. Bull., August, 1906.
9. Cole, L. G., and Einhorn: Radiograms of the Digestive Tract, New York Med. Jour., Oct. 8, 1910.
10. Haenisch: Rep. Am. Röntg. Soc., Sept. 29 to Oct. 1, 1910.
11. Beck, E. G.: New York Med. Jour., Jan. 2, 1909, p. 16.
12 Alexander, W.: Deutsch. med. Wchnschr., 1909, xxxv, 877.
13. Lewin, L.: München. med. Wchnschr., 1909, lxi, 643.

Milk, as representing a suitable form of food, is now being used as a menstruum for the bismuth. A serious objection to ordinary milk is the early precipitation of the bismuth, but this can be overcome by the use of the fermented milks which hold the salts in suspension for a much longer time. Our experiments with bismuth suspended in various media demonstrate that the salts mixed with the fermented milk remain in suspension longer than in other fluid foods, as malted milk, sweet milk, buttermilk, and chicken soup. The next best substance is a thick chicken soup. (Fig. 1.)

For the average adult, 75 gm. of bismuth subcarbonate suspended in 500 c.c. of fermented milk is given with the stomach empty. Previous catharsis is unnecessary and inadvisable. The diet for the previous twelve hours must be light and exclusive of meat, fruits, and vegetables. All medication is omitted.

The radiographs have all been taken with the patient in the standing position. The distance from the anode to the plate is 24 inches, with the plate anteriorly and the anode on a level with the umbilicus. The illumination is dorsoventral, with one or two lateral views, as the occasion demands. The duration of the exposure is from one-sixth to four seconds, mostly under one second. It requires an average of from eight to twelve radiographs to examine a patient. Occasionally, a second series is necessary for a control, or a rectal injection to corroborate the colon findings. For experimental purposes, more plates have been taken than are ordinarily necessary for a routine examination. We find that the radiographs after the rectal injection do not give as natural an appearance to the colon as those taken after the administration of the bismuth by mouth. The plates can be taken much sooner, however, as the bismuth mass reaches the cecum within fifteen minutes and is then rapidly expelled per rectum.

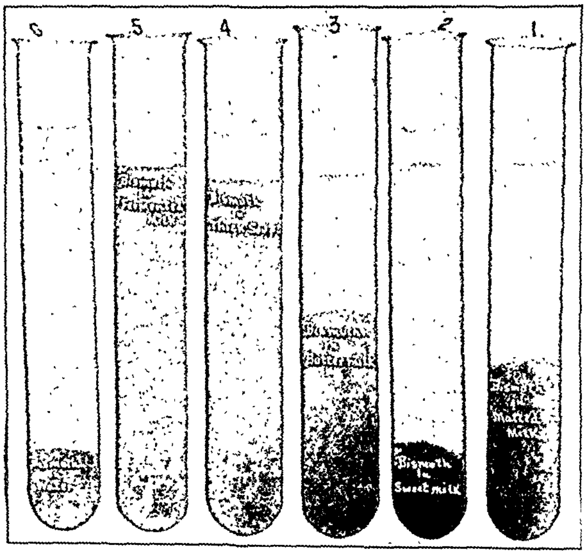

Fig. 1.—Radiograph of substances used for Röntgen-ray test-meals. Each test-tube contains an equal amount of bismuth subcarbonate. It shows the amount of settling fifty hours after suspension. 1. Malted milk and acacia. 2. Sweet milk. 3. Buttermilk. 4. Chicken soup. 5. Fermented milk. 6. Water and acacia. Note the remarkable stability of the suspension of the bismuth in the fermented milk.

We always try to make a primary, a secondary, and a final diagnosis. The primary diagnosis is made from the history, the physical examination, the examination of the gastric contents after a test-meal, and the examination of the feces and the urine. Other examinations are made as the occasion arises. The primary diagnosis is made previous to any consideration of the Röntgen ray.

The secondary diagnosis is made wholly from thorough consideration of multiple Röntgenograms, taken seriatim after the bismuth meal. In every case, the exposures are continued until the last trace of bismuth has left the alimentary tract.

The final diagnosis is made by carefully comparing the primary and secondary diagnoses and weighing the preponderance of evidence offered by the symptomatology.

In estimating the position of the viscera, our technic is to place markers on (1) the tip of the ensiform, on (2) the umbilicus, over (3) the tip of the ninth right costal cartilage, and on (4) the anterior superior spine of the right ilium. The umbilicus, contrary to what we expected, appears to be a fairly well-fixed point, except in very pendulous abdominal walls. It must be remembered, however, though these landmarks are sometimes uncertain, yet if their location is abnormal it is evident on physical examination, and hence allowance can be made.

We shall first mention some of the results, quite constant in nearly all our cases. Our studies on the esophagus have been entirely too superficial as yet to warrant the findings being chronicled. The points in fixation of the stomach agree with those described by anatomists. They are the esophagus and distal end of the first portion of the duodenum, which latter point anatomists say is firmly attached by the duodeno-hepatic ligament (Piersol[14]). In a normal, or at least a non-ptosed well-filled stomach, the shadow of the distal end of the first portion of the duodenum reaches the level of the upper border of the second lumbar vertebræ. The outline of the pylorus is situated opposite the junction of the second and third lumbar vertebræ. For the purpose of classification, we consider that if the lesser curvature is well up above the upper margin of the umbilicus, the stomach is not ptosed. The shape of the stomach varies according to the position of the subject. When the patient is in the standing position, in the greatest number of cases, the shape of the stomach resembles that of a fish-hook, and when in the recumbent ventral position, it simulates a steer's horn. This modifies former anatomic views based on dissections in the dorsal decubitus. When the patient is in the standing position, the long axis is vertical; when he is in the prone position, the long axis in the same subject may be oblique or almost transverse.

In order to determine accurately the size, shape, and position of the stomach, studies of plates made within a few minutes after ingestion of the bismuth meal should be made. During activity of the stomach, peristaltic waves can be seen distinctly as constrictions on the greater and lesser curvatures. These are differentiated from permanent constrictions by the changes in form of the organ in the succeeding plates or by the fluoroscope. The former is, in our estimation, more accurate and practical than the latter. The cardiac end of the stomach empties very quickly and shows the rugæ often plainly marked out by the bismuth. In cases of gastric fermentation, the gas rises in the cardiac end and pushes up the diaphragm, as can be well demonstrated in the radiograph.

The average time required for the normal stomach to empty itself completely of a full bismuth meal is, in our experience, from two and one-half to four hours. It is difficult to prove atony of the gastric musculature, but stasis and permanent pouches can be demonstrated, some of the bismuth remaining in the lower pole as long as ten hours after ingestion.

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[14] Piersol, George A.: Human Anatomy, 1909 ed.

The motility of the stomach in nearly all cases appears to be most rapid during the early part of digestion. Some stomachs seem to rest after the first thirty minutes to an hour. After that, they still contain about one-quarter of the amount of the original contents, which is discharged in a variable time. The end motility of the stomach is apparently not influenced by the amount of free hydrochloric acid in the gastric contents. The early activity in certain cases of hyperchlorhydria is increased, however. This is demonstrated by the serial radiographs taken up to the final emptying of the organ. The dilated stomachs almost invariably show a slow motility, especially in completion of the act.

The study of the small intestine has so far been unsatisfactory, especially so of the duodenum, on account of the rapidity with which the bismuth meal passes through this part. The first portion of the duodenum can usually be identified by a small mass of bismuth, the so-called "bishop's cap," separated from the pyloric antrum by the outline of the pyloric muscle. The pyloric ring, as thus seen, averages 3/16 of an inch in width. In most of our cases, splashes of bismuth appeared in the jejunum within a few minutes after the entrance of the meal into the stomach, and it is the exception to find the small intestine free from bismuth within ten minutes after taking the food.

The course of the bismuth in the jejunum is first to the left iliac region, but it quickly settles in the median line. It appears between the umbilicus and the brim of the true pelvis in non-ptosed conditions and enters quickly the true pelvis in ptosed states.

We find the progress of the bismuth in the small intestine to be comparatively rapid. In the twenty-seven cases studied for this paper, the earliest time within which the bismuth has reached the cecum was one hour. This occurred in two adults, and in three children about twelve years of age, one of whom had a pan-visceroptosis. Rieder[1] and Goldthwaite[15] consider two hours to be the most rapid time in which the bismuth can reach the cecum, while Groedel and Hertz say that they have not seen the bismuth reach the cecum in two hours, and that four hours is the shortest time it takes. In our slowest cases, so far, the bismuth has taken five hours to reach the cecum. The average time seems to be two hours. Complete emptying of the small intestine can be determined in only nine out of the twenty-seven cases. In these cases it averages about six hours, and varies from four to seven hours. The estimation of the time is rendered uncertain by a dilated, sacculated, or "residual" stomach, which constantly sends over splashes of bismuth into the small intestine until the organ has completely emptied itself.

Normally, the cecum is always situated well above the brim of the true pelvis. When the colon is ptosed, the cecum lies near the brim and in severe cases often hangs over into the true pelvic cavity. Dilatation of the colon appeared in eight cases, in which the colon had not been emptied in forty-eight hours.

In three of our cases, the vermiform appendix can be plainly seen, the lumen being patent and filled with bismuth. This occurred in one case after a cecum had become much engorged, and in another before the cecum had been filled. In these three cases, the situation and size could be proved. In one of the patients the bismuth remained in the appendix four days after the cecum had been emptied.

In one of our patients, with a complete transposition of all the viscera and a coloptosis, a subacute appendicitis seemed probable. The radiograph demonstrated the cecum well below the line leading from the anterior superior spine to the umbilicus and on the left side. McBurney's point, where the place of tenderness existed, corresponded to the hepatic flexure. An operation has not been performed, as the pain and tenderness were probably caused by a localized colitis, as evidenced by the mucus in the stools. The bismuth radiogram proved the locality of the cecum, and, if it did not absolutely disprove the diagnosis of appendicitis, at least showed that the patient's appendix was on the left side and well down in the pelvic cavity. The patient improved under treatment, which was general, and local for the colitis, with an abdominal belt for support for the coloptosis.

Our results as to the position, size, shape, and motility of the colon have been very satisfactory. The organ can be readily identified by its size, position, and sacculations. We have classified the cases into (1) normal colons, (2) abnormally long and looped colons, (3) ptosed colons, with or without abnormal length and loops, and (4) abnormally short colons. As to the shape of the colons, the following terms have suggested themselves to our minds: (a) straight, transverse colons, the strictly normal; (b) the U-shaped colon, caused by one large loop, dipping down toward the pelvis; (c) the V-shaped colon, which is similar; (d) the double U-shaped colon, with one loop from the hepatic and another from the splenic portion of the transverse colon; (e) the W-shaped colon, similar to the last; (f) the diamond-shaped colon, with the transverse portion running abruptly upward from the hepatic to the splenic flexure; and (g) the dragon-shaped colon. Our control radiographs show the constancy in the shape and posi-

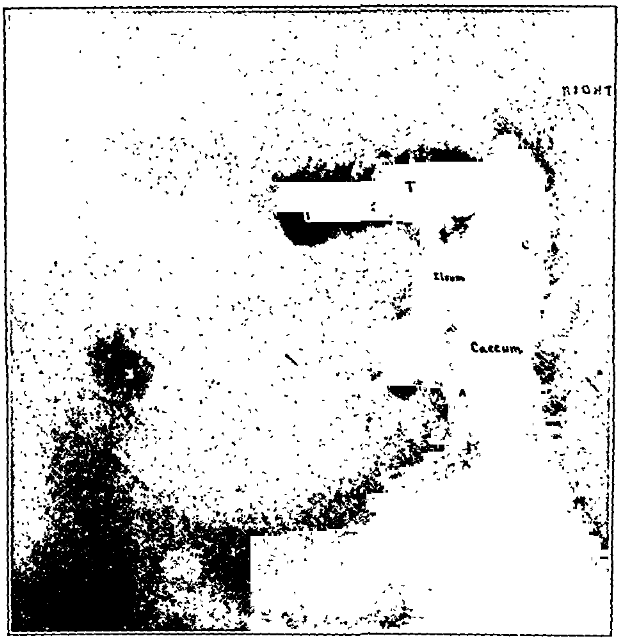

Fig. 2.—Radiograph taken five hours after the ingestion of a bismuth meal (Case 1). A, base; V, the tip of the vermiform appendix; U, umbilicus; T, transverse colon; H, hepatic flexure; B, remnants of bismuth in coils of small intestine; S. S., anterior superior spines.

tion of these colons, and in our estimation prove them to be peculiar to the individual. In some cases, hidden folds in the colon occur which give in later radiographs, after the colon is well filled, a much longer and looped appearance.

A ptosis of the colon is recognized by the low position of the caput coli and of the hepatic flexure. The hepatic flexure is normally at or above the level of the umbilicus. The loops of the colon may exist without a coexisting ptosis, as shown in some of our cases. The most constant point of fixation of the colon is at the splenic flexure where the intestine is attached by the phrenocolic ligament to the left abdominal wall under the spleen (Piersol). The average height of the splenic flexure, in our cases, is 4 inches above the umbilicus, a point which varies but little except in some extreme cases of coloptosis.

Motility of the colon varies, often out of proportion to its length. The motility in ptosed colons we think is always slow.

The sigmoid flexure has, as we expected, a variable length and size. In normal cases it is situated well within the pelvic brim and does not pass much to the right of the median line. The length of abnormally long sigmoids may be estimated by the distance to the right of the median line and the height to which they extend. In three of our cases the shadows of the sigmoid and cecum impinge. In two of the cases long and dilated sigmoids are present, associated with colons of normal length. In one of our patients the sigmoid and rectum held the bismuth for over seventy-five hours and it was forty-eight hours more before the patient passed bismuth in the stool. This made a total residence of the feces in this part of the intestinal tract of over five days. The patient had a long-standing constipation, followed by hemorrhoids, which were excised. The radiographs show a long, looped and ptosed colon, with a long and tortuous sigmoid and upper portion of the rectum.

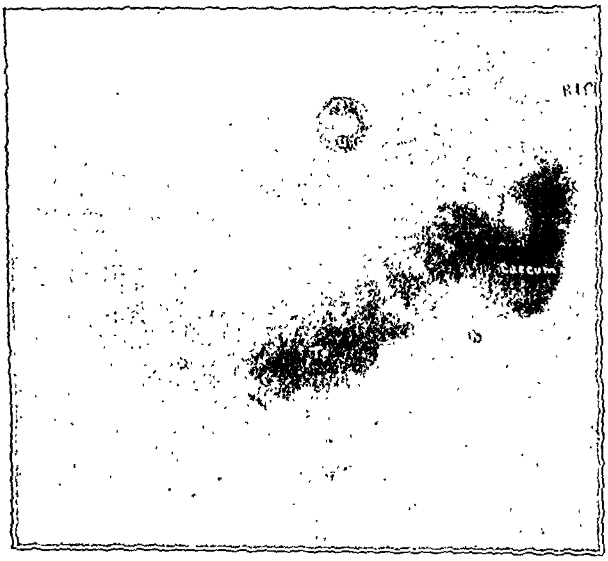

Fig. 3.—Radiograph taken twenty-six hours after the ingestion of a bismuth meal (Case 1). T, *transverse colon*, now become U-shaped; A, vermiform appendix, bent on itself; F, *traces of bismuth* in the sigmoid flexure; C, ascending colon. The lighter areas in the upper part of the colon are due to gas formation.

Our treatment for these cases of gastroptosis, enteroptosis and coloptosis consists of an abdominal wall support, often reinforced by two horsehair pads arranged ventrally, so as to support the colon. Goldthwaite's posture[15] taken immediately after eating, with the patient on his back, hips and thighs elevated, has been tried successfully in a number of cases.

CASE REPORTS

Case 1.—M. McD., a woman aged 27, child's nurse, single, ever since childhood had been constipated and had to take cathartics or laxatives. For the past two years she had been getting worse, vomiting having occurred from one-quarter to one-half hour after meals. She had pain, which was most marked in the epigastrium, but which also at times extended lower down on the right side of the abdomen and into the right hip and leg. Distress and soreness after eating were invariably present over the sternum. During the summer and fall of 1910 she developed hemorrhoids, which became inflamed and were removed in January, 1911.

After the operation, the patient's symptoms continued; the obstinate constipation could not be relieved by medical means, the chief of which were olive oil internally, ordinary enemas, and olive oil per rectum, colon massage, and vibration. Analysis of the gastric contents showed traces of free hydrochloric acid. The stools were very dry, hard and contained undigested food.

In May, 1911, the bismuth-Röntgen-ray test was made. This showed a stomach of normal shape and size, but ptosed, with a complete emptying in three hours. The bismuth reached the cecum in two hours, and the small intestine was completely emptied in five and one-half hours. Four hours after the ingestion of the bismuth, the cecum and part of the transverse colon were filled, the transverse colon straight, and the hepatic flexure 2 inches above the umbilicus, and therefore no ptosis apparent. The shadow of the bismuth in the ascending colon was so heavy that in consideration of the next picture the colon seemed to be folded on itself (Fig. 2.) One hour later the bismuth meal had not made any progress, but the apparent churning motion and the weight of the residue had dragged down what must have been a folded colon, and distended the appendix. This organ could be plainly outlined by the bismuth in the lumen; it overhung the brim of the true pelvis, was long, and made a sharp bend near its middle. In the last plate of the series, taken 101 hours after the bismuth meal, the outline of the bismuth in the appendix could still be plainly seen. Four hours later, or nine hours after the ingestion of the bismuth, a most remarkable drop in the transverse colon occurred, making a large central loop reaching down into the true pelvis, and the hepatic flexure was one inch lower than in the previous picture (Fig. 3). Twenty-six hours after the bismuth had been taken, very little progress had been made, but the whole colon was distended with gas which collected in the upper parts and raised apparently the level of the hepatic flexure. The sigmoid flexure was outlined in places, and the colon retained the same shape as before. The eighth plate of this series, taken forty-eight hours after the bismuth meal, showed very little progress in the looped colon. The bismuth did not show in the descending colon, but filled fairly well the sigmoid flexure. Up to this time the patient had had no bowel movement; seventy-seven hours after the bismuth meal, the colon retained its same position, but the main mass of the bismuth was still in the sigmoid flexure and the rectum. The sigmoid was very tortuous and long. The appendix was in the same position as before, and the same size. At the one hundred and first hour, without a movement, the bismuth was massed in the sigmoid and rectum and the appendix was still full of bismuth. It was two days after this picture was taken before the bismuth appeared in the stool, making a total of six days for the bismuth to pass through the gastro-intestinal tract. The diagnosis made in her case was a very severe case of constipation which, from the history, was probably the causative factor of the ptosed colon. At the time of writing, a laparotomy, with appendectomy and colopexy, is being considered.

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[15] Goldthwaite, J. E.: Boston Med. and Surg. Jour., May 19, 1910.

CASE 2.—B. S., a girl 18 years old, shirt-waist maker, said that her mother had an ulcer of the stomach. For years the patient had had obstinate constipation and three years before she had been operated on for appendicitis and abscess formation. Since that operation the constipation had been growing worse, with headache across the temple, cramplike pains in the abdomen, worse at night, vertigo, heartburn, nausea, and occasional attacks of syncope which compelled her to give up work. She had no appetite and would vomit small amounts of food after eating; she said that she had vomited a tablespoonful of bright blood two weeks before examination by us in February, 1911. Her diet had been reduced to a ridiculously low amount, with nothing before lunch time. She had lost weight, but was still fairly well nourished. Her chief complaints were obstinate constipation, frequent vomiting, and pain in the epigastrium and back. Examination of the abdomen showed a good-sized scar over the appendiceal region, abdominal musculature was of good tone, and there was no distention. The outlines of the stomach seemed normal, but there was tenderness over the whole abdomen in general, which was localized over the epigastrium and along the spine, and more marked at the level of the tenth and eleventh dorsal vertebræ. The Ewald test meal showed a 0.07 per cent. and 0.04 per cent. free hydrochloric acid on two occasions respectively, with a total acidity within normal bounds. No lactic acid was present.

The diagnosis of an ulcer of the stomach as being the cause of her trouble seemed unlikely, no blood or occult blood being found in the gastric contents or stools. Lavage relieved her somewhat, but only temporarily. February 27, the bismuth Röntgen-ray test was applied. The first picture, taken fifteen minutes after the swallowing of the bismuth, showed a nearly normal stomach, oblique fish-hook type, which emptied rapidly. The rugæ in the cardiac end were well marked. Within five hours the organ was completely empty. The small intestine was well down in the pelvic cavity.

The last picture in this series was taken twenty-four hours after the bismuth meal, and showed a ptosed cecum and splenic flexure. All the bismuth was in the large intestine, and the transverse portion of the colon has a long U-shaped loop, the lower border of which is 4 inches below the umbilicus, with its center 2 inches to the left of the median line. As this was one of our early cases, unfortunately we did not continue the series until the gastro-intestinal tract became completely empty. For a month and a half the patient was treated by regulation of the diet, massage and vibration, olive oil by mouth and per rectum, and by the usual instructions for regularity, etc., but an occasional cathartic was the only thing that gave her relief, and that only for a day or two. The flatulence, pain and vomiting continued. The pain now seemed localized over the left kidney with tenderness there, and an x-ray picture showed absence of renal or other calculi. An exploratory laparotomy showed the long, looped and ptosed colon, which was distended with feces, in spite of previous catharsis and high enemas. One adhesion of the cecum to the abdominal wall, as the result of the appendectomy, was cut. The cecum was dilated but otherwise not pathologic.

Palpation of the stomach gave no evidence of ulcer or growth. The kidneys, gall-bladder and other organs seemed normal. The loop of the transverse colon was freely movable and low down in the pelvic cavity. With no permission to do a radical operation on the intestine, we closed the wound.

Since the operation the patient's condition has not improved, except for a short time after an abdominal web belt for the support of the ptosed colon was provided, and the patient sent to the country. At the end of last May she reported that the constipation was no better and that she still had attacks of sickness. She and her family have been advised of the probable necessity of a radical operation on the intestine, and of the dangers of the same, and have agreed to have it performed soon. We propose to sidetrack part of the colon, or possibly excise part of it.

CONCLUSIONS

1. The length of time that it takes the contents of the gastro-intestinal tract to reach each division of the tract, and the time in which the division is completely emptied, can be definitely determined in each individual by the bismuth Röntgen-ray test.

2. The normal motility of each part of the gastro-intestinal tract can be definitely established.

3. The food immediately after ingestion begins to pass into the small intestine and by the end of an hour, at least one-quarter of the gastric contents is in the jejunum.

4. The stomach is emptied of 500 c.c. of milk or soup in two and one-half to four hours.

5. The existence of an increased amount of free hydrochloric acid in the gastric contents has no influence on the final emptying time of the stomach.

6. The time which this meal consumes in passing to the cecum averages two hours, varies from one to four hours, and is shorter in children.

7. The complete emptying time of the small intestine after this meal is probably about six hours.

8. Complete emptying of the colon consumes from twenty-four to forty-eight hours.

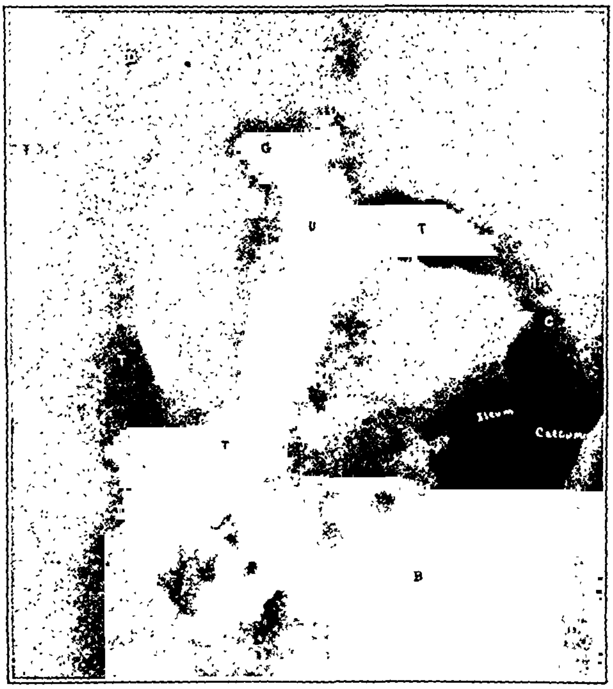

Fig. 4.—Radiograph taken three hours after the ingestion of a bismuth meal. This shows the rapid passage of food through the stomach and small intestine. The colon is dragon-shaped. H, hepatic flexure; T, transverse colon; D, splenic flexure; G, traces of bismuth in the stomach; B, bismuth in the small intestine. Case 6 [not reported in detail].

9. The bismuth-Röntgen-ray test is harmless and practical.

10. The ordinary methods of medical treatment can be more intelligently applied with the improvement in diagnosis accomplished by this test.

11. The bismuth-Röntgen-ray test should be employed before an operation is performed for a chronic condition of the gastro-intestinal tract.

We wish to thank Dr. George B. Wallace and Dr. John C. A. Gerster for their help in sending us patients, Dr. Arthur Mandel for his assistance in clinical and chemical analyses, and Dr. Alexander Smith, Dr. Egbert LeFevre and Dr. Harlow Brooks for their encouragement in undertaking the work.

125 West Fifty-Eighth Street—338 East Twenty-Sixth Street.

CERVICAL IMPLANTATION OF THE PLACENTA WITH RUPTURE OF THE UTERUS

HYSTERECTOMY; RECOVERY

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Any investigations which throw light on the causation or treatment of that greatest of obstetrical calamities, rupture of the uterus, are of importance to the obstetrician, the surgeon and the general practitioner. The most frequent causes of this condition are obstructions to the descent of the fetus, with neglect of the procedures necessary for delivery of the child, as in patients treated by midwives or by the laity. Such obstructions are often in the form of contracted pelves, or tumors of the pelvis encroaching on the parturient canal. A normal fetal head of large measurements or a hydrocephalic head may cause obstruction by failure to enter a normal pelvis. Malpositions of the fetus, as a transverse position with a shoulder presentation, lead invariably to obstruction unless properly cared for.

Rupture of the uterus has been the direct result of manipulations, as attempted versions or the use of the hand or curet in efforts to empty a pregnant uterus. Even external violence has been known to produce rupture. The improper administration of ergot in the early stages of labor may cause a tetanic action of the muscle of the upper uterine segment which may end in a thinning out and tearing of the lower segment.

Finally, abnormalities of the uterus itself, as pathologic changes in various portions of its walls, or deformities, as bicornate uterus with a pregnancy in one cornu, play a prominent part in the causation of uterine rupture. The presence of carcinoma, syphilis or soft myomata in the uterine walls, predisposes to its occurence. The scars of previous Cesarean sections often give way during labor and the cervix has sometimes proved so rigid or stenosed as to resist all efforts of nature to dilate it until the thinned-out lower uterine segment is torn apart by the straining efforts of the uterine muscle. Very rarely an ectopic gestation in the mural portion of the Fallopian tube, as it gradually enlarged, has put the uterine wall on the stretch until it has suddenly given way with all the signs of a ruptured ectopic pregnancy in their severest form.

I have observed a case which exemplifies a very rare cause of rupture of the uterus.

History.—The patient was 28 years old, the mother of two children, 2 and 4 years of age, respectively. The first child was delivered with forceps, while the second was the result of a normal pregnancy and delivery, with the exception that at the end of eight months the patient had a slight bloody vaginal discharge which disappeared after a few days' rest in bed. She had had two miscarriages, the last one early in July, 1910, at about seven weeks. Her last menstruation was on May 15, 1910. About the middle of August of the same year, when three months pregnant, she was shocked by the news of the sudden death of her father, and a few days later began to complain of pains in the pelvic region, with a desire to urinate frequently. She consulted a physician who made a very cursory general investigation, omitting the vaginal examination, and pronounced her case to be one of bladder inflammation, for which he continued to prescribe every few days during the subsequent two weeks. Early in September, after intercourse with her husband, she suffered severe pain in the right lower abdominal quadrant. Her physician, who was immediately summoned, gave her a hypodermic of morphin. One week later, after intercourse, she had a similar attack of severe pelvic pain in the right side, for which, as before, she was given a hypodermic. This was followed by retention of urine. She was confined to bed four days, during which time she was catheterized twice daily. For this purpose a glass catheter kept in a solution was utilized. During the following three weeks she had slight pains in the pelvis, some headache and was constipated. During this time she had no intercourse on account of the fear of bringing on another attack of severe pain. Another attempt at coitus on October 2 brought on intense abdominal pains and rectal tenesmus. The physician was called and administered a hypodermic and gave the patient an enema. After this she fell asleep for about two hours, when she was awakened by the recurrence of pain, followed by attacks of syncope. When the doctor returned, he found her in great agony with abdomen distended and a failing pulse. Believing that rupture of an ectopic pregnancy had occurred, I was summoned.

Examination.—When I saw the patient her skin and mucous membranes were completely blanched. Her abdomen was distended with fluid and her pulse had become imperceptible. Faint and fluttering heart sounds could be auscultated. She was conscious, but so weak that she could speak only in monosyllables. On digital examination, I felt the vaginal portion of the cervix somewhat enlarged and having the soft, velvety consistency of pregnancy. The os was closed and there was no sign of any discharge. The vaginal fornices and the pouch of Douglas felt boggy and were very tender to the touch. The fundus of the uterus could not be mapped out on account of the extreme distention and sensitiveness of the abdomen. A detailed examination was not deemed advisable on account of the urgency of the case.

Operation.—I agreed with the doctor in attendance that we had to deal with a probable ruptured ectopic gestation and made arrangements to have the patient transferred to the hospital. On her arrival, she was immediately taken from the ambulance to the operating table. A hypodermic injection of morphin was given and ether was administered by the drop method. On opening the peritoneum a large quantity of fluid and clotted blood was found, and a large fluctuating tumor presented which seemed to be wedged into the pelvis. When this tumor was lifted from the pelvic cavity, it proved to be a pregnant uterus with an attenuated anterior wall which at first sight was mistaken for an ovarian cyst. At the extreme left border of the anterior wall near the broad ligament there was a rent about the size of a silver quarter through which shreds of placental tissue protruded. Behind the uterus more fluid and clotted blood was found. The appendages were normal in appearance. Cesarean section was deemed inadvisable, as, from the meager history obtained during the emergency, I was not sure that there had been no interference and accompanying infection. Furthermore, the condition of the uterine wall was such as not to justify an attempt to suture it. Where the products of pregnancy were retained, the walls of the uterus were as thin and fragile as paper. Hysterectomy was therefore decided on. The bladder was separated from the anterior uterine wall, which was here so thin and paper-like that it was torn, allowing the escape of amniotic fluid, followed by the presentation of the lower extremities of the fetus at the opening. In order to facilitate the handling of the uterus, the fetus was extracted in an upward direction through this tear. The ovarian arteries were clamped and divided and the rectum separated posteriorly. The right uterine artery was then ligated, the cervix cut through and the ligature applied to the left uterine artery. In order to get below the attachment of the amniotic sac, I cut deeply into the cervix, but, although only a small portion of the cervix was left intact, I did not succeed in getting entirely beyond the confines of the placental attachment. The uterus was delivered with the placenta attached. As soon as the toilet of the peritoneum was completed, a saline solution of 1,000 c.c. was injected into the right median cephalic vein and the abdomen was closed without drainage.

Outcome.—During the first twenty-four hours after operation the patient received proctoclysis and some hypodermic stimulation. The bowels were moved by calomel and salts on the third day. Convalescence was uneventful with the exception of a slight rise of temperature due to a stitch abscess near the upper angle of the wound. The patient was discharged from the hospital at the end of three weeks. She now feels perfectly well, has gained seven pounds in weight and is able to attend to her household responsibilities. The hemoglobin, which was 30 per cent. on the day subsequent to the operation, is now 85 per cent.

Pathology.—The pelvis was carefully examined in order to ascertain whether an anomalous condition was present which might have contributed to the cause of rupture.

It is evident from the following measurements that no such anomaly existed:

Distance between the anterior superior spines, 23 cm.; intertrochanteric diameter, 30 cm.; external conjugate, 20 cm.; right and left obliques, each, 22 cm., and the internal conjugate, 11 cm.

The uterus after hardening measures 3½ by 4 by 2 inches, excluding the placental site, which is so torn and irregular as to prevent accurate measurement.*

An anterior thin wall lodging the placenta continues down from the normal thickness of the uterus. This portion when spread downward measures between 3 and 4 inches.

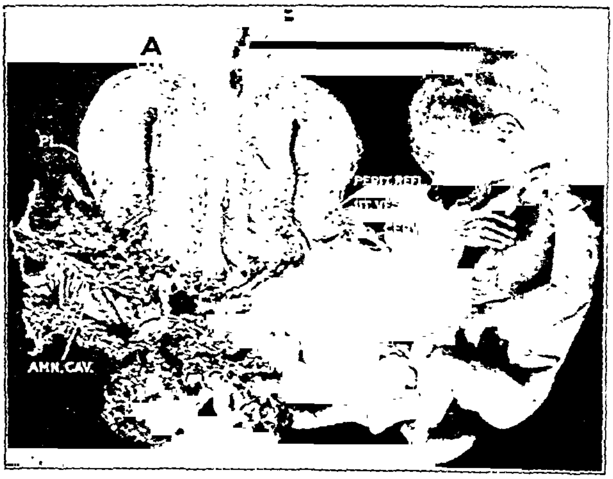
Similarly, the posterior portion of the uterus is a thin muscular wall which also gives attachment to placenta. When the flaps are restored to their natural relations, it is apparent that the placenta occupies the inner surface of the dilated lower portion of the uterus. The posterior portion of the placenta showns an amnion with the umbilical insertion still well preserved. Attached to the cord was a well-formed female fetus 9½ inches in length, nearly 5 months old.

On sagittal section of the uterus, microscopically, the placenta seems to begin at the dilated thin lowermost portion of the uterus just below the insertion of the uterine vessels and nearly corresponding to the anterior and posterior reflections of the peritoneum. This would mean that the placenta occupies the cervical portion of the uterine canal commencing at about the isthmus. The corporeal portion of the canal seems altogether devoid of placenta, microscopically.

Microscopically, the lowermost portion of the uterus shows chorionic villi lining the canal. The glands are for the most part absent. When seen they show very low cylindrical epithelium which has the tendency to form papillæ and are for the most part corpus glands. Only in the smallest areas can cervix glands be seen in sections which also show chorionic villi. These latter are of the transitional form, i. e., they contain for the most part syncytial cells, while the Langhans cells are beginning to disappear. There is an unusually large amount of lime. The chorionic villi show a moderate tendency to penetrate the cervical parenchyma. In some portions of the myometrium, however, a variable number of serotinal giant cells are seen. The musculature shows an outspoken hypertrophy. Here and there is a leukocytic infiltration. This is most marked in the thin walls of the lowest portion of the uterus, where, furthermore, the vessels are filled with thrombi. The thin portion of the uterus measures from ⅛ to ¼ of an inch as compared with 1½ inches thickness of the corporeal portion of the uterus.

While evidences of the inflammatory reaction are not sufficient in this specimen to provide a predisposing cause for spontaneous rupture, the examination proves the presence of a condition quite analogous to one of the aberrant forms of pregnancy, as in the extra-uterine or interstitial varieties. The placental site was below or at the isthmus and its development took place within the cervical canal. There was obviously not sufficient room for the ovum to expand beyond a period of five months. It impinged against the linea iliopectinea. This was a predisposing cause of rupture, the real cause being the fact that the chorionic villi had invaded the entire parenchyma of the wall of the cervix, favoring rupture, as in tubal pregnancy. This process was confined to the small pelvis and the thinned-out cervical walls finally gave way to the increased pressure. It is probable that coitus played an important traumatic rôle in the history of the case.

The mechanism of uterine rupture in this case differs materially from that involved in most cases. Bandl, in 1875, described a ring of fibers in the inner wall of the uterine muscle located about 12 to 15 cm. above the internal os at full term. This is the dividing point during labor between the upper uterine segment, which, by its contraction, propels the fetus through the parturient canal, and the lower uterine segment which is simply passive and dilates to form a passage for the fetus. In the presence of obstruction to its passage through the parturient canal, the upper segment, in its efforts to overcome the obstruction, continues to exert tension on the thinned-out lower segment until a tear occurs. Such an explanation for the rupture in my case can scarcely be taken into account, as the relations of the upper and lower uterine segments are of significance only at a full term delivery.



The photograph shows the two halves of the uterus and attached placenta: A, right half; B, left half; Ut. Vess., uterine vessels; Perit. Ref., lowermost points of peritoneal reflection; Pl., uppermost attachment of placenta; Am. Cav., amniotic cavity; Cerv., cervix.

My conclusion that the case was one of cervical implantation of the placenta is based on the following grounds:

1. The uterus is divided into two general portions, a well-preserved, thick upper portion, and a very much thinner lower portion. The placenta is attached to this lower portion. Neither macroscopically nor microscopically can evidences of placental attachment, such as retained villi, decidua or giant cells, be demonstrated in the body of the uterus.
2. The point where the placenta appears macroscopically corresponds to a line drawn between the insertion of the uterine vessels on either side, and also between the anterior and posterior peritoneal reflections. Both of these landmarks indicate the level of the isthmus and the internal os.
3. The placental attachment was demonstrated in contact with cervical glands.

The findings prove that the case was one of pregnancy at about the fifth month, with spontaneous rupture of the uterus, due to a cervical implantation of the placenta.

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* Dr. I. C. Rubin will publish a more detailed pathologic report of the specimens of this case at a later date.

This is probably the first case of its kind reported in this country.

A careful review of the literature of the subject reveals several cases on record abroad in which placental tissue was undoubtedly attached to the cervix.

L. Müller has reviewed the literature, but without finding cases in which the anatomic investigations were thorough enough to assure the correctness of the diagnosis.

In more recent years several cases have been reported which are so convincing in their clinical and anatomic aspects that the occasional existence of a placenta prævia cervicalis cannot longer be doubted.

Dr. Otto v. Weiss[1] reported a case of a quintipara, aged 33, who was admitted at full term on account of profuse hemorrhage, with a diagnosis of placenta prævia. Tamponade was followed by podalic version and delivery, with the loss of a large amount of blood. The child died during the attempt at delivery. The placenta was found intimately adherent to the cervical mucous membrane and was separated from it with great difficulty by manual extraction. A chill and fever occurred and it was found that there was a streptococcus infection with retained shreds of placenta. Vaginal hysterectomy was followed by death on the third day.

A. Keilmann[2] reported a case of a tertipara admitted with ruptured membranes, slight labor pains and some hemorrhage. Spontaneous delivery occurred. Two hours later a portion of undelivered placenta was found adherent to the anterior lip of the cervix and was removed with great difficulty by manual separation.

E. Ponfick[3] reported a case of a nonipara with repeated hemorrhages during pregnancy. A diagnosis of placenta prævia was made and on the left and posterior aspect, the placenta was found to be continued down inseparably adherent as far as the vaginal portion of the cervix.

Jaschke[4] reports a recent case of placenta isthmica et cervicalis.

The cases which have been so far reported in the literature have not been supported by microscopic evidence and are so few in number as to warrant the assumption that placenta prævia cervicalis is either a very rare condition or one which is very rarely recognized.

969 Madison Avenue.

SUBPARIETAL RUPTURE OF SOLITARY KIDNEY *

A. J. MAYER, M.D.,† AND A. NELKEN, M.D.
NEW ORLEANS

The horseshoe kidney, while rare, is sufficiently common to require no especial comment. Those anomalous conditions in which the kidneys are completely fused into one mass are of much less common occurrence. To this condition, the *Kuchinniere* of the Germans, Rokitansky applied the term "solitary kidney," to differentiate it from the true single, or "unsymmetrical" kidney.

Morris, reviewing the statistical reports of four of the largest of the London hospitals, found that while the "horse-shoe" kidney was present once in each 1,000 autopsies, the fused kidney, not of the "horseshoe" variety, was found only once in 15,908 necropsies.

Subparietal rupture of the kidney is comparatively rare. Connell, in a paper read before the Western Surgical Association,[1] collected from all sources a total of 841 cases.

Our case of subparietal rupture of a "solitary" kidney is, we believe, unique in the literature.

History.—Our patient was a white man, 30 years of age, a native of England, and a sailor by occupation. We were unable to get a connected account of his injury and the sequelæ, but, as far as we were able to gather, seven days prior to applying for treatment, while climbing a ladder, he had fallen a distance of from four to six feet. In falling his body swung around, and he struck with his right lumbar region on an iron rail. He complained of some pain in his right side, following the injury, but continued to void urine up to seven days after the accident. We were unable to learn whether or not this urine contained blood. His urine stopping suddenly (?), the captain of his ship sent him to the Touro for treatment.

Examination.—The patient was admitted to the service of Dr. Matas who requested Dr. Mayer to look after him. On admission the patient's general condition was good, his temperature was normal. He showed considerable ecchymosis in the right lumbar region and in the perineum. A large diffuse swelling could be felt in the right side almost to the umbilicus, and longitudinally from the last rib to the pelvis. The abdomen was distended and very tense. About two ounces of bloody urine were withdrawn by catheter. He was catheterized twice more in the following twenty-four hours, but no urine was obtained. He vomited three times the day following admission.

Diagnosis.—The question of diagnosis was interesting. The history of the injury and the mass in the right side suggested at once rupture of the right kidney. But rupture of the right kidney would not explain the absence of urine in the bladder, since there was no evidence of damage to the left kidney. Rupture of the bladder, with postperitoneal infiltration of urine was contra-indicated by the nature of the injury, and, especially, by the fact that the patient had voided urine normally for seven days after the accident.

The possibility of there being but one kidney was discussed, but, if this rare anomaly was present, we could not explain why a ruptured single kidney should secrete what the patient described as being comparatively normal urine for seven days, and then suddenly cease functioning. Rupture of the right kidney, with subsequent sloughing of the bladder-wall, the reason for which we did not understand, seemed to us to be the only plausible explanation of the conditions present.

Because of this opinion, and because the condition of the patient did not justify any unnecessary delay, no attempt at cystoscopy was made. As was demonstrated by subsequent findings, cystoscopy with catheterization of the ureters would have been unintelligible or even misleading, unless styleted catheters had been used and a radiograph taken.

Operation.—At Dr. Matas' suggestion, an exploratory laparotomy was done. The incision was made to the left of the median line, to avoid possible contamination of the peritoneal cavity with what appeared to be infiltrated urine beneath the abdominal wall on the right side. When the peritoneum was opened, the cavity was found to contain about a pint of clear fluid which had no urinary odor. To the right, postperitoneal, extending from the last rib to the crest of the ilium was a large oval swelling which evidently included the right kidney. No left kidney could be found, although search was made as high as the spleen and as low as the pelvis. The bladder was tested and found to be intact. The abdominal wound was closed with some difficulty because of the intestinal distention and the patient turned over on his left side. The ordinary loin incision was made over the right kidney. As the muscles were being cut through there was a gush of bloody urine. The wound was enlarged and the hand introduced. The kidney was found to be lying slightly lower than usual, but otherwise its position was normal. The lower pole of the kidney was roughly broken off and sloughing. The cavity below the kidney was filled with what seemed to be sloughing tissue and partially organized blood-clots. The ureter was felt to be hard and considerably thickened, but there was no dilatation either of the ureter or of the pelvis of the kidney.

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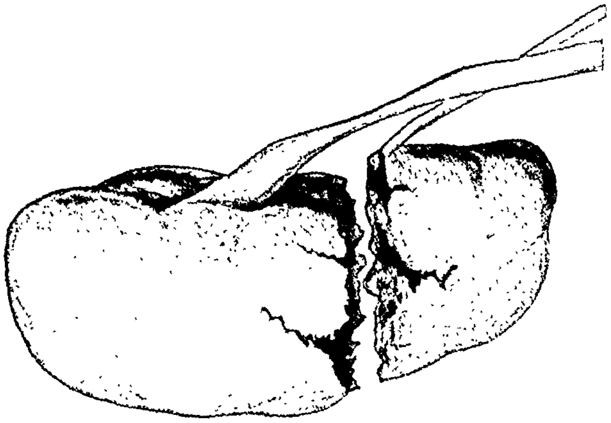
[1] Weiss: Centralbl. f. Gynec., 1897, p. 641.
[2] [illegible] Gynec., 1897, p. 857.
[3] [illegible] W.: Ueber placenta prævia; insbesondere Placenta prævia cervicalis, Berl. klin. Wchnschr., 1899, No. 35.
[4] Jaschke: Ztschr. f. Gynec., March, 1911, p. 1409.
* Pathologic report by F. B. Gurd, M.D.
† Deceased, Jan. 14, 1911.

[1] Connell: The Journal A. M. A., March 25, 1911, p. 875.

As the condition of the patient was bad, no time was lost in careful examination. Drainage with tubes and gauze was done, the wound dressed, and the patient was returned to the ward. Shortly after the operation, the patient voided urine, and he continued to void normal quantities of clear urine. But he never rallied from the operation, and died thirty-six hours thereafter.



The subparietal rupture of a solitary kidney.

From the findings at autopsy, we concluded that, following the injury to the kidney, the upper segment continued to function until the gradually contracting blood-clot finally completely occluded the ureter.

The operation, by removing the obstruction, permitted the kidney to resume its function. The autopsy findings showed that there had been no hydronephrosis.

The autopsy was performed by Dr. F. B. Gurd, whose report is appended.

Autopsy.—This was performed six hours after death; a general examination of the body revealed nothing worthy of note with the exception of those parts in the neighborhood of the right kidney.

Over the loin on the right side is an incision 10 cm. in length, also a second incision of a similar length opening into the mid-line of the abdomen, its lower extremity being 8 cm. above the pubis.

On opening the abdomen, the posterior peritoneum appears to be deep reddish-black in color, the result of a blood-clot lying behind it. This appearance is especially marked in the neighborhood of the right kidney. Separation of this blood-clot, which measures from 2 to 6 cm. in thickness and is moderately friable, deep red in color and firm, discloses the right kidney. This organ is large (weight 380 gm.) and normally firm. Somewhat below the center of the organ from above downward there has been a solution of continuity, the separated surfaces lying about 4 cm. apart, the intervening space being filled with blood-clot and greyish friable masses, apparently necrotic material.

On the removal of the two portions of the kidney and the placing them in opposition, a more or less normal shaped large kidney is seen. The surface is smooth and normal in color, with the exception of an area 2 cm. wide on either side of the rupture. In these zones the surface is mottled deep red and greyish-yellow in color. On section the organ appears in general more or less normal, though somewhat pale. The cut surface bulges and exudes fluid blood. The cortex is thickened, measuring from 0.6 to 0.8 cm. in diameter. The glomeruli are somewhat more distinctly prominent than usual. Differentiation between the cortex and medulla is moderately well marked. The central portion of the kidney on either side of the line of rupture shows irregular deep purple, somewhat softer areas between which lie triangular yellowish portions with the apex pointing toward the medulla. These areas correspond to yellowish blotches seen on the surface.

At the point mentioned, namely 4 cm. from the kidney, the ureter is constricted measuring not more than 0.35 cm. in diameter for a distance of 4 cm. The wall of this ureter throughout its entire length is somewhat thickened.

The second ureter which is approximately half the size of the other arises from the lower portion of the kidney, at the point of rupture. No pelvis, and no calices are present.

Two sets of blood-vessels supply the kidney. One in the neighborhood of the upper, the other in the neighborhood of the lower ureter.

Absolutely no evidence of a second or left kidney can be found.

The bladder contains two normal-looking ureteral openings, the left opening being situated slightly further from the urethral opening than the right, giving the trigone an irregular appearance. The two ureters cross one another about 8 cm. above the bifurcation of the aorta, the right going to the upper pole of the kidney and the left to the lower. On removal, the kidney is found to weigh 400 gm., and, though large when the two portions are approximated, is normal in size. The kidney substance is moderately firm and somewhat paler than normal. On the upper surface of the lower portion several irregular, yellowish blotches are noted.

Anatomic Diagnosis: Congenital absence of left kidney; traumatic rupture of right kidney, retroperitoneal hematoma (perirenal).

Microscopic Examination of Kidney: A section cut from a more normal-looking area of the kidney shows an injection of the renal vessels and a few sclerosed Malpighian tufts. The cells lining the tubules are somewhat swollen and take the red stain with moderate intensity. The nuclei stain well. Within the tubules and about the glomeruli there is a moderate amount of granular red staining material (serum).

Other sections cut from the greyish purple area in the line of rupture consist of blood-clot, made up chiefly of necrotic blood-cells and kidney substance infiltrated here and there with polymorphonuclear leukocytes.

Section 3 cut from one of the yellowish nodules in the lower portion shows a necrosis *in situ* of the kidney substance surrounded by a zone characterized by injection of the blood-vessels and interstitial exudate of serum.

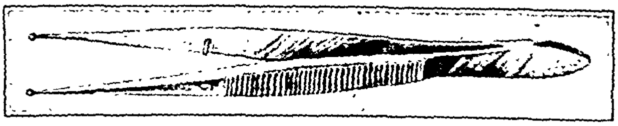
Microscopic Diagnosis: Acute nephritis
Infarcts of the kidney (traumatic).

Perrin Building.

A NEW BLOOD-VESSEL FORCEPS

BERTRAM M. BERNHEIM, M.D.
BALTIMORE

The slightest scratch given the intima during the manipulations required in any blood-vessel work almost invariably spells failure in the form of a thrombus. Sharp-pointed instruments are, therefore, scrupulously avoided in all such work. Indeed, most men find their fingers the best and safest of all instruments.



Blood-vessel forceps with small ball-tipped ends

But since the work can at times be facilitated by a delicate pair of forceps, I have had one constructed which has a small, polished metal knob about the size of an ordinary pin-head on each end. These knobs enable one to grasp the vessel firmly without doing the slightest damage to the intima.

2319 Linden Avenue.

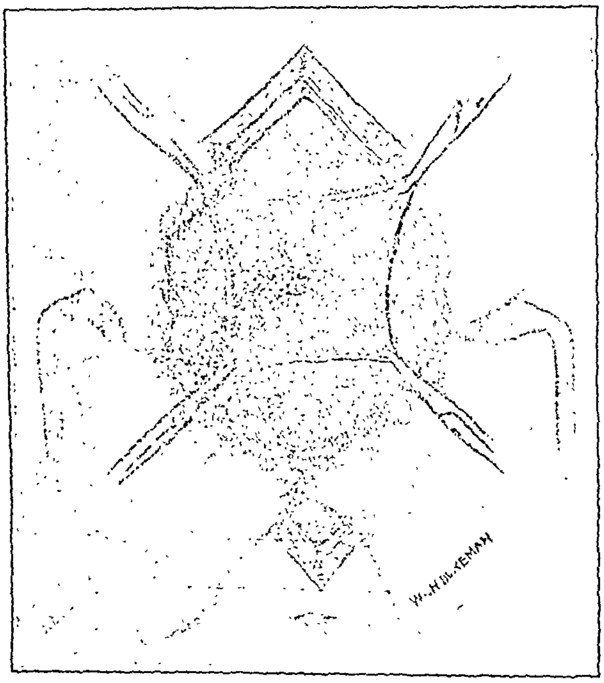
INTRAPERITONEAL CYSTOTOMY FOR TUMOR OF THE BLADDER *

W. H. DUKEMAN. M.D.
LOS ANGELES, CAL.

The conception of the operation of intraperitoneal cystotomy and the successful performance of the operation by Dr. F. B. Harrington of Boston in the year 1893 opened the way for the ideal surgical procedure for the removal of intravesical tumors of the bladder.

Harrington's detailed descriptive technic of the operation,[1] and full explanation of the feasibility of his method gave to the profession an operation in bladder surgery of great advantage over other methods now in vogue.

It is now eighteen years since Harrington first performed this operation, and only a very few surgeons have recognized its safety and ease of performance. The high rate of mortality in the surgery of the bladder for the removal of tumors, either by the suprapubic or perineal route, whether the growth be malignant or benign, does not give very encouraging results.



Abdominal wound, intestines and omentum, walled off with gauze pads, showing incision in the bladder, held open by forceps, exposing the tumor, urethra and right ureter. The left ureter is hidden behind the tumor.

Watson,[2] of Boston, in his tabulated report of 653 cases, shows the unsatisfactory results of surgical intervention by the perineal and suprapubic methods, and suggests the intraperitoneal operation.

Scudder and Davis,[3] of Boston, report four cases of the removal of tumors of the bladder by the Harrington intraperitoneal method, and all recovered.

The surgeons of St. Mary's Hospital, Rochester, Minn., in their collection of papers recently published, report fifteen cases of bladder tumors removed by the Harrington intraperitoneal method with but one death.

From the literature I have at command several other surgeons have reported single cases of resection of the bladder for malignant growths by this method, and with success.

As the intraperitoneal operation has not become as general with surgeons as its merits warrant, I trust that the addition to the list of another successful case, in which I operated recently by this method and which resulted in a most satisfactory and speedy recovery, will lead the cautious surgeon to give this method a trial.

REPORT OF CASE

History.—Dr. A., aged 68, retired physician, consulted me last November for slight hemorrhage of the bladder. His family history is unimportant as he has always enjoyed the average good health. Last November, he first noticed blood in the urine and some discomfort in the region of the prostate gland, with the desire for frequent micturition. The blood in the urine was not constant, but appeared only at intervals, accompanied with the occasional passage of small clots of blood. There was no profuse hemorrhage at any time.

Examination.—The prostate gland examined per rectum was normal for a man of his age. Microscopic examination of the urine showed blood, bladder epithelium, a few villous-like shreds, few crystals of calcium oxalate, no pus; the kidneys were normal. Diagnosis, possibly papilloma of the bladder.

I advised cystoscopic examination and sent the patient on March 28, 1911, to Dr. F. S. Dillingham, who reported the discovery of a growth, about the size of the first joint of the little finger, situated a little above and drooping down over the left ureter; any attempt to raise the tumor caused considerable hemorrhage. The tumor was attached by a broad base and its full length, which discouraged any attempt to remove it by operative cystoscopy. Diagnosis, tumor of the bladder, probably malignant. The bladder was washed out daily with boric acid solution and the patient sent to the Pacific Hospital.

Operation.—This was done April 5, by the intraperitoneal method. An incision was made from the pubes to within one inch of the navel, which gave ample room. The patient was placed in the Trendelenburg position and the intestines, omentum and abdominal incision walled off with gauze pads, leaving only the bladder exposed. The catheter was previously introduced into the bladder by the urethra and the bladder irrigated with boric acid solution. An incision, one and one-half inches, was made in the median line in the posterior bladder wall, and with clips holding apart the bladder incision, the tumor was nicely exposed to view. Its position had been accurately located by cystoscopy, being above and hanging over the left ureter; the lower point of attachment was about one-third inch above the ureter. Its base of attachment did not extend into the muscularis, and the tumor was very easily extirpated. The red-hot platinum cautery point was now applied to the raw surface at the seat of the tumor attachment, and the oozing of blood was completely controlled. The bladder was then carefully cleansed of all clots and mopped dry with gauze sponges. The little flow of urine from the ureters during the extirpation of the tumor, did not interfere in the least. The bladder incision was now closed. The first row of suture with No. 0 chromic catgut was inserted by the Connell stitch, taking in all the layers of the bladder wall, completely closing the incision, the mucous surface thereby being turned in and controlling all oozing of blood from the line of incision. The peritoneum was then enclosed over the first line of suture by the Cushing continuous method with No. 1 Pagenstecher linen thread. The catheter having been left in the urethra, the bladder was now irrigated with boric acid solution and slightly distended to test the line of suture, which proved to be water tight. The catheter was now withdrawn from the urethra, and about two ounces of the boric acid solution was left in the bladder. The gauze pads were then removed and the abdominal incision closed in layers. No drainage.

Histopathologic Report (by Dr. E. L. Leonard).—Epithelioma. Evidently low grade of malignancy.

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* Read before the Los Angeles County Medical Association, June 2, 1911.

[1] Harrington, F. B.: Ann. Surg., October, 1893.

[2] *Watson*: Ann. Surg., December, 1905.

[3] Scudder and Davis: Ann. Surg., December, 1908.

Postoperative History.—The patient recovered from the anesthetic without vomiting and voided six ounces (urine and boric acid solution), three hours after the operation and without discomfort. The bladder was irrigated with boric acid solution three times daily for the first three days, then twice daily until the sixth day when the urine became almost clear, and by the tenth day the urine voided was all clear normal, and the irrigations of the bladder were stopped. The capacity of the bladder by the tenth day had increased to 8 and 10 ounces, while before the operation it was only from two to four ounces. By the eighth or tenth day all postoperative hemorrhage and irritability of the bladder had ceased. After the third day the patient partook of three regular light meals and was quite comfortable throughout the entire period of convalescence, amusing himself reading and relating funny stories to his attendants. He was up and around on the twelfth day and left the hospital on the seventeenth day. The postoperative temperature never arose above 99.4 F. and the pulse remained normal. After the operation there was no abdominal pain at any time, and no more discomfort at the neck of the bladder than had been present for months previously. The only inconvenience which the patient experienced after the intoxication from the ether had ceased was from the pulling of the abdominal stitches.

The surgeons who have adopted the intraperitoneal cystotomy operation for the removal of malignant tumors of the bladder, all agree in the praise of this method over the perineal and suprapubic routes.

The mortality from the cases reported so far, is less than 10 per cent., whereas by the suprapubic and perineal methods it is from 28 to 47 per cent.

In the hands of the careful operator, by the intraperitoneal route the danger of soiling and infecting the peritoneum is practically nothing. In the case here reported, there was no necessity for drainage and there was no postoperative annoyance to the patient; whereas every surgeon dreads the postoperative annoyance to which the patient is subjected by either the perineal or the suprapubic route, and the surgeon's anxiety relative to these postoperative dangers is practically eliminated by doing the intraperitoneal operation.

This single case, with the ease of approach and the ready access to the growth which the surgeon has at command to the base of the bladder, at once suggests the idea that, under favorable conditions, the enlarged prostate gland may be as easy and safely removed and all hemorrhage controlled by closure of the capsule by suture.

1116 Lake Street.

HEMORRHAGIC EROSIONS OF THE STOMACH

WITH THE REPORT OF THE AUTOPSY FINDINGS IN A CASE OF EINHORN'S DISEASE*

N. W. JONES, M.D.
PORTLAND, ORE.

Hemorrhagic erosions of the stomach from the viewpoint of the examination of the fasting organ is not an infrequent clinical finding. In 600 consecutive cases in which this routine examination was made as a part of general diagnosis, there were thirty-five cases, or 5.8 per cent., in which definite erosions of the gastric mucous membrane were found. As shown by the accompanying table, these cases were divided among the following disease conditions: Pernicious anemia, general asthenia, carcinoma of the stomach, carcinoma of the esophagus, cardiospasm, cardiosclerosis, dyspepsia nervosa, Schmidt's fermentation dyspepsia, Einhorn's disease, chronic anacid gastritis, chronic subacid gastritis, chronic acid gastritis, chronic gastrosuccorrhea, chronic gall-bladder disease, chronic intestinal catarrh, spastic obstipation, chronic salpingitis and chronic ulcer of the stomach. Two cases of so-called simple erosion, characterized by sudden severe gastric hemorrhage, afforded no fragments of mucous membrane either by vomiting or later by examination.

From a study of these cases the erosions group themselves logically into, (1) those without clinical significance, and (2) those with positive clinical significance.

Into the first group are placed the fragments of mucous membrane which are, for the most part, accidentally recovered. Chronic gastritis, together with the muscular contractions of the stomach and the trauma from the tube, has afforded thirteen of thirty-four cases. This trauma, together with the contractions of the muscular coats, has seemingly been the entire cause in all of the remaining cases with the exception of the two malignant ones, in which erosions were found. It has been noted also that these erosions were obtained only where there was more or less retching and resistance on the part of the individual. Study of most of the fragments in teased preparations or from sections, in those instances in which the erosions were large enough to be so treated, has not thrown any further light on their etiology. There is always a variable amount of small round cells between the gland acini, but it has been quite impossible to distinguish between round-cell infiltration and normal lymphoid structure. In one large erosion from a case of subacid gastritis "the cuticula and crypts were not broken or disintegrated, but in the deeper portions of the glands the cytoplasm stained faintly and was swollen. In places it seemed to be disintegrating and portions of the glands were missing. There was some small round-cell infiltration, but nowhere was it of marked degree." Other etiologic factors determined by Mintz, Wurtz and Leudet, Dieulafoy, Nauwerk, Gerhardt, Langerhans and E. Fraenkel, were not found.

There are, however, two types of hemorrhagic erosions of the stomach of distinct clinical importance, which present fairly definite clinical pictures. They are (a) the so-called simple erosion of Dieulafoy and (b) the chronic and recurring type of erosion described first by Einhorn and now termed Einhorn's disease.

Of the simple erosion, which is characterized by sudden, severe, at times fatal hemorrhage occurring during normal health, usually without pain and with but little sickness, I do not wish to speak, excepting to emphasize the need of a better recognition of the condition and the employment of rational medical treatment. In one of the four cases seen by me death was hastened, if not actually caused, by surgical measures, and two of the three other patients were strongly urged by competent operators to submit to operation. I think it is now quite agreed among surgical writers as well as among physicians that acute bleeding from the stomach is a condition best handled by medical means and not by surgery. In 1901 Rodman reported thirty-two operations for acute gastric hemorrhage with nine deaths, a mortality of 40.6 per cent. In 1906 Laurent reported 93 per cent. recovery in his patients treated medically. A critical review of the literature since these dates bears out this contention more forcibly, and yet such patients are still being operated on. This fact, in my opinion, justifies the clinical grouping of this class of cases in such a way as will emphasize the importance of their treatment whatever the pathogenesis underlying the condition may be.

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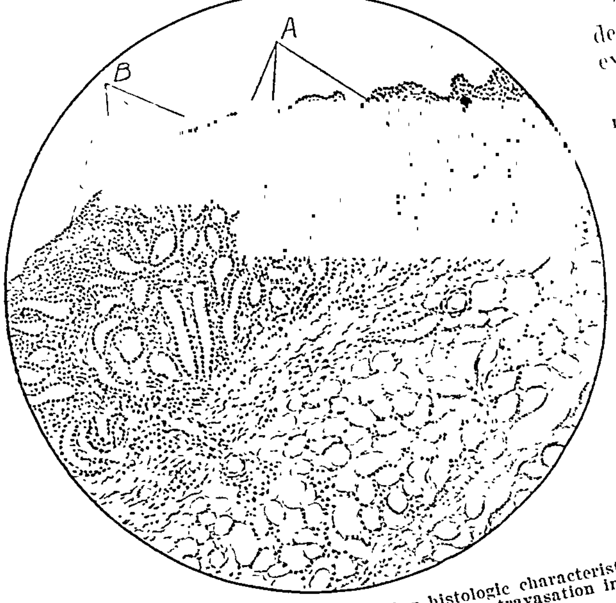
* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

According to Einhorn, the disease which was described first by him in 1894, and which now bears his name, is a chronic condition characterized by diffuse stomach pain which comes on shortly after eating and is not influenced by pressure, vomiting or eating again; by a sense of great weakness, a rather rapid loss in weight. and, pathognomically, by the repeated presence of from two to four erosions in the wash water from the fasting stomach. Einhorn's belief that this clinical picture was the expression of a distinct disease has been upheld by Mintz, Berger and others. Pariser, Nauwerk and Elsner, on the other hand, have maintained that the basis of the picture has been a chronic gastritis, the ordinary symptoms of which have been forced into the background by the periodic occurrence of the erosions and the bleeding. Owing to the entire absence of postmortem examinations of such cases, the following typically illustrative case which came to autopsy is given briefly in detail, together with the anatomic findings:



Reproduction from drawing showing histologic characteristics of tissue. A, remnants of gland acini; B, blood extravasation in areas of dense, small round-cell infiltration.

History.—Mr. D., a business man, aged 57 years, began twenty years ago to have, with the coming of each winter, periods of illness characterized by a diffuse sense of burning in the stomach after eating, sometimes on rising, a rapidly developing weakness, paleness and loss of weight. At times there was some nausea and the regurgitation of clear fluid which was not especially sour to taste. All foods produced distress. There was no local tenderness, no fever, chills or sweating. The bowels were regular. Each year the illness lasted several weeks, usually in bed with restricted diet. More or less paleness and weakness would last until warm weather set in, when he would regain his health rapidly, his anemia would disappear and his stomach would again tolerate any kind of food without discomfort. The patient believed a causal relationship existed on the part of the cold and always dreaded the approach of winter. During the illness of the year preceding that of his death occult blood was found in the stools. His last illness came on as they always had before and was of several weeks' duration. Blood was again found in the stools Dr. Mackenzie tells me that blood examinations showed a very severe grade of a chlorotic type of anemia. The patient had weighed 202 pounds before his illness began but had lost much flesh during it. His own personal history and that of his family were negative in all respects.

Necropsy.—Through the courtesy of Dr. Mackenzie I made a post-mortem examination on Dec. 20, 1909, six hours after death. Briefly the anatomic findings were as follows: The body was that of a tall, heavily boned, greatly emaciated middle-aged man. The panniculus was pale and scanty; the peritoneum was smooth and glossy. All parenchymatous organs were very pale and dry. The heart and lungs were otherwise negative. Very small scattered atheromatous patches existed in the beginning of the arch of the aorta. They were absent throughout the course of the abdominal aorta. There was no gross evidence of terminal infection. The bone-marrow of the ribs was pale in color. The intestine and colon were more or less filled with dark, tarry content that contained much blood. The stomach was of normal size, blanched, and contained a little turbid fluid. Over the mucosal surface a moderate amount of greyish, somewhat blood-stained, tenacious mucus was found. On the posterior wall about midway between the cardia and the pylorus were seen five small eroded areas with hemorrhagic margins and bases. They were superficial in character, not extending to the submucosa, and varied from the size of a split pea to 1.5 cm. in length and 1/3 cm. in width. No eroded vessels could be found.

The stomach was given to Dr. Roberg of the medical department of the University of Oregon for histologic examination. He reports as follows:

> The mucosal surface of the organ is pale yellowish in color. mottled by several deeply colored and rather circumscribed areas. Sections for examinations were taken through both the pale and the darker portions of the stomach-wall. Microscopically, the dark areas show no difference in appearance from the other. They are pigmented areas of submucous hemorrhages, the coloring of which is derived from dissolved hemoglobin deposited in the interglandular tissue and in the secreting cells of the gastric glands. The interstitial tissue of the epithelial layer of the mucosa is the seat of a dense, small round-cell infiltration. This infiltration is diffuse and more marked in the surface of the mucosa. The deposit of these small round cells is so dense that in many cases the stomach glands have been completely obliterated. Scattered throughout this dense infiltration are islands or portions of glands. Their lumina are distended to two or three times the normal size. The cell cytoplasm is granular and disintegrated and in many places the lumina are filled with a cytoplasmic debris. In the fundus region no differentiation of the gland cells occurs into parietal and chief cells. All gland-cell nuclei stain less deeply than normal. The capillaries in the mucous membrane are markedy dilated along the basement membrane and, in the region of the crypts, show a diffuse extravasation of blood. The blood-vessel plexuses in the submucosal and muscular layers show a thickening of the walls and a slight congestion. The muscular layer, submucosa and muscularis have to a slight degree an infiltration of small round cells.

I submitted also to Dr. Roberg for histologic examination three large erosions from a typical case of Einhorn's disease which I have had under observation for over three years and which I have previously reported. His findings are as follows:

> The gastric crypts and cuticular border of the mucosa are quite intact. The neck and fundus portions of the gastric glands are displaced and partly obliterated by a small round-cell infiltration not unlike that described in the previous case but not so dense. The destruction and displacement of the glandular elements, although considerable, are likewise not so marked. Interstitial hemorrhage and congestion are absent.
>
> Thus the microscopic examination of the two cases presents the picture of a form of chronic gastritis characterized (1) by a dense small round-cell infiltration in the interstices of the glandular elements, which when extensive obliterates the gastric glands by pressure; (2) by the disintegration of the cutic-

ular portion of the mucosa as the crypts are displaced by the small round cells; and (3) by the fact that with the disintegration of the cuticula and crypts the congested vessels are exposed and ruptured, which accounts for the gastric hemorrhages occurring during the clinical course of the disease.

An entire absence of proliferation of the connective tissue elements, the engorgement of the superficial blood capillaries and the manner in which the gland cells are destroyed sharply differentiate the process from ordinary chronic gastritis. The claim, therefore, of Elsner and others that the disease is one of ordinary gastritis with the factor of erosion formation added to it is no longer tenable, and neither, on the other hand, is that of Einhorn, for the process must be classified as a type of chronic gastritis. It is, in fact, a chronic, non-proliferative, hemorrhagic gastritis.

In general, I believe it will be well to retain this clinical grouping of hemorrhagic erosions, and to consider them, clinically speaking, as disease entities for the sake of defining their relation to other types of gastric hemorrhage. Simple erosion, on the one hand, probably possesses a manifold etiology. Whether Einhorn's disease likewise does, only further autopsy findings will determine. From the similarity of these two cases, however, it is probable that its pathology will be found to be the same in others.

TABLE OF SIX HUNDRED CASES AND RELATION OF STOMACH EROSIONS TO THEM

Disease.	No. of Cases.	Cases with Erosions.	Erosions Found in Each.
Anemia, pernicious	4	1	2
Anemia, metasyphilitic	1	0	0
Anemia, chlorosis	1	0	0
Aneurysm abdominal aorta	2	0	0
Appendicitis, chronic	3	0	0
Abdominal arteriosclerosis	4	0	0
Arthritis, toxic	3	0	0
Asthenia, general	79	1	4
Brain tumor	1	0	0
Carcinoma, stomach	18	1	2
Carcinoma, pancreas	1	0	0
Carcinoma, sigmoid	3	0	0
Carcinoma, liver (*sec*)	1	0	0
Carcinoma, esophagus	1	0	†
Colitis, mucous	24	0	0
Colitis, chronic ulcerative	2	0	0
Cardiospasm	7	2	2, 2
Cardiosclerosis	15	1	1
Cirrhosis stomach	1	0	0
Dyspepsia nervosa	11	1	1
Dyspepsia fermentation (Schmidt)	13	2	2, 1
Diabetes	1	0	0
Erosions of the stomach (Einhorn's disease)	1	1	4
Erosions of stomach (simple hemorrhagic) examined late after bleeding	2	0	0
Epilepsy, *petit mal*	1	0	0
Fibroid right broad ligament	1	0	0
Gastritis—chronic anacid (inc. achylia gastrica)	47	6	†1, 4, 2, 1
Gastritis, chronic subacid	22	3	1, 2, 3
Gastritis, chronic acid	13	2	1, 2
Gastrosuccorrhea, chronic	23	2	1, 1
Gastrectasis (without ulcer)	11	0	0
Gastroptosis	12	0	0
Gastromyxorrhea	1	0	0
Gall-bladder disease, chronic	29	3	1, 1, 2
Hyperchlorhydria	8	0	0
Hypochlorhydria	3	0	0
Hypertension, arterial chronic	2	0	0
Intestinal catarrh, chronic	22	1	1
Myatonia congenita	1	0	0
Migraine, chronic	4	0	0
Nephritis, chronic	3	0	0
Neurasthenia	31	0	0
Obstipation, atonic	31	0	0
Obstipation, spastic	69	3	†1, 1
Organic heart disease	11	0	0
Polycythemia	1	0	0
Pyloric insufficiency	4	0	0
Urticaria univ	1	0	0
Salpingitis, chronic	1	1	1
Sacro-iliac joint relaxation	1	0	0
Scoliosis	1	0	0
Tuberculosis, lungs	7	0	0
Tuberculosis, peritoneum	1	0	0
Tabes	2	0	0
Ulcer of stomach, chronic	31	3	†1, 1
Ulcer of stomach, healed	2	0	0
Ulcer of stomach, duodenal	2	0	0
† Many.	600	35	

ABSTRACT OF DISCUSSION

Dr. Robert T. Morris, New York: In these days when so much credit is given to proper stomach surgery, I wish to emphasize a point made by Dr. Jones that hemorrhagic erosions of the stomach are not cases for the surgeon. Whatever credit comes to surgeons is from wise selection of cases. Surgery does not at all comprehend the question of gastric erosions and does not give relief because the original condition persists. Again, there are the shock and other features which were incidental to operation, features that are not desirable. There was one point, however, that Dr. Jones did not bring out and one which I believe to be very important. We should learn more of the early septic history, and especially of the ordinary medical treatment that was employed at the time the erosions occurred. Of course, the patients must have treatment when these erosions of the stomach occur, but the earlier toxic history should be kept track of in all these cases. We should remember that hyperchlorhydria and hypochlorhydria are symptoms like coughing or sneezing. The hormones send wrong messages to the secreting glands. What reason have we for believing that excreted toxins are basic factors in these erosions? What is found in the peritoneum of the vicinity gives us a clue? We all have found peritoneal adhesions so common in the pyloric region that we must assign some significance to them. We often meet with cases of adhesions, "cobwebs in the attic of the abdomen," which are due apparently to the excretion of toxins by the liver; in some cases the lesion might be due to the actual excretion of bacteria, chiefly of the colon-bacillus group, which pass the liver unharmed at times, but set up trouble in the bile-tract. The endothelium desquamates, lymph is excreted, coagulation occurs and adhesions are then formed and gastric disturbances follow. These hieroglyphics most of you can read and must read. When these hieroglyphics in *bas relief* occur in the peritoneum, the "cobwebs in the attic of the abdomen," we must look for an explanation in the toxic influences preceding erosion. Such toxic influences result in spasm of the terminal arteries situated in this region. Please do not forget the terminal arteries, for we are dealing with them. The toxic spasm of the terminal arteries here results in cell infiltration and other pathologic conditions, such as Dr. Jones has described in his paper.

In the treatment of hemorrhagic erosions of the stomach, surgery should not, I believe, be considered at all; medical treatment alone should be employed; any operation in these cases must result in disaster. If we hark back to the original cause I think we shall find that hemorrhagic erosions of the stomach are the result of excreted toxins.

Dr. J. F. Hultgen, Chicago: Erosions of the stomach are not considered sufficiently in connection with the constant anemia which one meets with in these cases. This fact suggests to me that there might be an anatomic cause for this condition—the symptom-complex might be due to the anemia itself; it might be due, as Dr. Morris has suggested, to some toxic process. The anemia *coexistent or coexisting* in these cases has not been thoroughly inquired into; more investigations should be made in order to bring out this matter. As a matter of fact, the anatomic basis, so far as was shown by Dr. Jones, was not sufficient to explain the clinical course of the disease. I believe that the gastric hemorrhage from the erosion is nothing but a symptom, and that the underlying morbid process might be of hemolytic nature or of toxic origin.

Dr. Philip King Brown, San Francisco: This condition of hemorrhagic erosions of the stomach is not recognized easily. Hemorrhage occurring in association with pain might be the result of chronic disease of the appendix, so fully described by Moynihan several years ago. He reported twelve cases, the symptoms of which were classical of gastric ulcer; at operation no ulcers were found. In each instance, however, there was found a diseased appendix. When the appendix was removed in these cases all the symptoms of gastric ulcer disappeared. It was my lot to recommend for operation practically the same kind of a case; this patient presented symptoms that made one feel quite positive of his diagnosis. The individual had been under the care of Dr. Boas and Dr. Ewald and other stomach specialists of note. They all made a similar mistake in the diagnosis. The symptoms were entirely gastric and hemorrhages were quite frequent. Under my care and while on a strict Lenhart diet, with the usual subnormal temperature, there suddenly developed a rise of 4 or 5 degrees above the normal. Evidently there was some pathologic condition in the appendix, as the fever was accompanied by pain, spasm and tenderness at McBurney's point, but it did not seem wise to operate on her at the time. Later at operation a very careful exploration of the gastric region was made, but nothing was found at all. The appendix was examined and removed, because adjacent to it was found a calcified gland and there were other evidences of old disease of this organ in the way of firm adhesions and partial occlusion and thickening. No really satisfactory explanation of the cause of hemorrhage from the stomach in these cases has yet been given. Whatever statements have been made thus far are not at all satisfactory to those who are looking for an explanation, but the point of gastric hemorrhage without ulcer from disease of the appendix is well established and should be borne in mind.

Dr. N. W. Jones, Portland, Ore.: In an exhaustive search of the literature on Einhorn's disease there are found no records of cases coming to autopsy. The pathology of the case reported by me seems to be distinct, but it needs verification by other cases. This condition is entirely distinct from those septic conditions in which stomach bleeding has occurred, as reported by Moynihan and Dieulafoy; and, it would seem to me, can have no relation to them. Its pathogenesis is not known. It does not seem to be that of ordinary chronic gastritis.

BUBONIC PLAGUE

WITH SPECIAL REFERENCE TO THAT OF GROUND SQUIRREL ORIGIN *

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Bubonic plague is a subject with which, fortunately, few of us have to deal. The practitioner in California, however, especially if his lot has been cast in the rural communities, must always keep the disease in mind when any acute febrile case comes under his observation. It is my intention to discuss only the isolated cases that occur in the country districts. Those that have been seen in San Francisco and in Oakland at various times between 1900 and 1908 were clearly associated with the presence of plague among rats, while the cases to which I particularly refer are associated with, and due to, the prevalence of the disease among ground squirrels (*Citellus beecheyi*). While plague in man when contracted from these animals is probably not essentially different from that derived from other sources, usually from rats, the cases that have come under observation are sufficient in number to justify us in examining them with care, especially as they are due to infection from a source that is unusual in other countries.

Two or three years after plague had been recognized in San Francisco, several cases of the disease occurred among persons living in the rural districts in the country across the bay from San Francisco. Surgeon Rupert Blue, of the Public Health and Marine-Hospital Service, noted in one or two instances that the disease occurred in those who had hunted ground squirrels a few days prior to the onset of the illness, and he suggested that since there had been no contact with human plague, and no known opportunity for infection from rats, the disease might be present in the squirrels, and be communicated from them to man.

During the past three years I have conducted the bacteriologic investigations in eleven cases of plague of ground squirrel origin. Seven of these patients I have seen clinically, and verified the diagnosis by laboratory methods, while in four the diagnosis was made from the bacteriologic examination of tissues taken at autopsy and sent to the laboratory. Six of these patients, all from the known infected zone, gave a clear history of handling ground squirrels within a week prior to the onset of the symptoms. Five gave no such history although they had been in vicinities where plague was known to exist among the ground squirrels at the time, or where it was demonstrated as a result of the investigations set in motion by the discovery of the disease in man. Of these eleven patients, seven were young men between the ages of 13 and 37; one was a boy aged 5; another, a boy aged 7; while two were young women. Six of these proved fatal, while five recovered.

Clinically there were three groups: The severe acute, the mild acute, and the subacute or pyemic. Six belonged to the first group. A typical history of one of these is as follows:

> About a week before becoming ill, the man had been squirrel shooting. The first complaint was of pain in the back and in the groin. There was great prostration. The temperature was 101.4 F., pulse 100. The second day, a swelling was made out in the femoral region. The third day, the patient was delirious and remained so until he died. The highest temperature recorded in this case was 103.8 F. but it usually goes to 105 F. or over. Death occurred on the fifth day of the illness.

One of these cases was rather unusual in that recovery occurred after invasion of the blood-stream by the plague bacillus. The evidence of septicemia was the recovery of the bacillus from the blood, and the development of secondary buboes in the regions of the various peripheral lymph glands.

The mild cases were four in number: all ending in recovery, but none was so mild as to justify calling it pestis minor. The history of the most recent case is as follows:

> There was no evidence of contact with squirrels, but the patient, a girl, lived in a territory that was known to be heavily infected. The first symptoms were headache and fever. These were followed by pain and tenderness in the right groin. The disturbance was so mild that it was thought sufficient to consult a physician by telephone. However, when improvement did not occur, the patient was visited by the medical attendant, who found a temperature of 104 F. There was a bubo in the femoral region. One week after the onset of the illness the glands were removed under an anesthetic. The patient made an uneventful recovery, never having been regarded as dangerously ill.

The subacute class is represented by only one among the squirrel cases that have come under my observation. This has been reported in detail by former Acting Assistant Surgeon W. B. Wherry and myself.[1] These cases of subacute or pyemic plague are seen occasionally in epidemics of rat origin.

> The patient was a youth, aged 13, who had been squirrel shooting about five days prior to the onset of the symptoms. The illness began with headache and vomiting. The next day the temperature was 104 F. Forty-eight hours after the onset of the symptoms, the glands in one axilla were found to be much enlarged and very painful. The nature of the dis-

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

* From the Federal Laboratory, San Francisco.

[1] Wherry, W. B., and McCoy, G. W.: Jour. Infect. Dis., November, 1909, vi, 5, p. 670.

case was not suspected and the glands were excised. On the fifth day all of the superficial glands became swollen and tender. The sputum was blood-tinged, and the patient was evidently quite ill. On the tenth day a pustular eruption appeared and plague bacilli were found in one of the skin lesions. The patient became septic and died on the sixteenth day of the illness. At the post-mortem, caseo-purulent foci were found in the lungs, liver and kidneys, as well as in the lymph glands.

No case of primary pneumonic or primary septicemic plague attributable to ground squirrel infection has come under observation.

On account of the importance of a diagnosis that cannot be impeached, it is required that all of these cases be verified bacteriologically; a few words may be said, however, about the clinical diagnosis. The onset is usually with fever, headache and pain in the back. Nose bleed often occurs. Several of the cases gave a history of an initial chill. The temperature is usually about 102 F., or 103 F. when the patient is first seen by a physician. A glandular swelling appears, sometimes coincident with the onset of the other symptoms, but usually a day or two later. In eight of the eleven cases, the primary bubo was in the axilla; in three it was in the groin. The gland involved is tender. The outline is lost in an edema that surrounds the parts. Fever and other general symptoms continue from five to eight days, or even longer. In the only cases in which recovery has taken place and the glands had not been excised, suppuration occurred. In the fatal cases, the patient usually dies while the glands are caseous and hemorrhagic and before pus has formed.

It is a pleasure to be able to state that although the disease is rare our recent cases have been recognized as suspicious by attending physicians and by the surgeons who removed the glands.

The bacteriologic diagnosis is made by the examination of a piece of the gland removed at operation, of fluid aspirated from a gland, or of tissue removed at the necropsy. When the smears show a considerable number of pest-like bacilli, a provisional diagnosis is made. The bacillus is isolated by cultural methods and laboratory animals are inoculated. It is the rule that the media inoculated from the bubo show an enormous number of colonies of *Bacillus pestis*, but in one case only six colonies appeared on the three tubes used, showing apparently that bacilli were very scarce. The growth was highly virulent, though the case was a mild one.

An experiment was undertaken for the purpose of ascertaining whether there was any difference in virulence for laboratory animals of the cultures isolated from the mild and from the severe cases of plague in man. Without entering into the details of the experiment I may state that the bacilli derived from mild cases were quite as pathogenic as those obtained from the severe and fatal cases. In other words, the severity of clinical manifestations is due to the varying resistance of the individuals rather than to a difference in the virulence of the organisms causing the disease.

Whenever practicable, the cases are treated with antipest serum, but the majority have come under observation too late to be benefited by it. The other treatment is purely symptomatic.

So much for the subject as regards human plague. I shall now discuss briefly the more important problem, the infection among the ground squirrels. The first proof of plague among the squirrels was obtained in the summer of 1908. Since that time, by an extensive investigation of these animals throughout the state, it has been found that the disease is probably confined to ten counties lying east and south of San Francisco Bay. This work has been carried on by the Public Health and Marine-Hospital Service, the immediate direction being in the hands of Surgeon Rupert Blue. The squirrels are shot and sent to the laboratory where they are dissected and examined.

In the rodents, the disease causes well-marked and readily recognized lesions which vary greatly. The larger percentage of cases are distinctly subacute or chronic, while a smaller number are of the acute type.

The pest bacillus isolated from infected squirrels is, morphologically, culturally and bacteriologically, in every way identical with that isolated from man and from rats. As to its pathogenicity, I may say that the organism appears to be a trifle less virulent than those from other sources; however, no definite statement is to be made on this point.

A very interesting observation is that many of the squirrels from the zone in which plague has prevailed for several years are relatively immune to laboratory infection with *Bacillus pestis*.

During the routine examination of these rodents, we have encountered a disease, the gross lesions of which bear a very strong resemblance to those of plague.[2] It is readily differentiated by bacteriologic methods.

The subject of the transmission of the disease from one squirrel to another, and from these rodents to man, is a very important one, and I regret that we have no conclusive evidence about the mode of infection. We have been able to show experimentally that plague may be carried from squirrel to squirrel by means of fleas. It may also be transmitted by feeding. What evidence we have, largely dependent on the location of the bubo, leads us to suspect that the disease is conveyed in nature by fleas, and possibly by other ecto-parasites. Briefly, this evidence, the importance of which in rat plague has been demonstrated by British workers in India, is as follows: In natural infections in rodents the bubo is found in the region of the peripheral glands, cervical, axillary, inguinal or pelvic. This agrees with the distribution of buboes in squirrels, rats and guinea pigs that have been infected experimentally by fleas, while in rodents infected by feeding, the buboes are always in the neck or in the mesentery. It will be noted that the neck buboes may be acquired in either way, i e., through fleas or by ingestion.

In one of the cases the patient, a boy, was bitten on the hand by a squirrel, and since the primary bubo occurred in the axilla on the same side, it seems reasonable to suppose that the bite infected the boy. This is rendered probable as many plague squirrels have lung lesions. Most of our cases have occurred during the summer months, which is the season of squirrel hunting. That the mere handling of an infected animal is not very dangerous is shown by the fact that the employees of the service have handled hundreds of plague squirrels without an accident, merely taking precautions against fleas.

The predominance of axillary buboes in human cases would appear to be accounted for by the fact that in handling infected squirrels which may carry parasites, the hands and arms would be more exposed to the attacks of the insects than other parts of the body. We cannot assert positively that parasites carry the disease to man, but it seems to be the most reasonable explanation.

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[2] Pub. Health Bull. 43, U. S. Public Health and Marine-Hospital Service, Washington, D. C., 1911.

The question might be asked why so few cases of plague in man have resulted from the extensive infection among the ground squirrels. The answer is not quite clear, but leaving aside such matters as failure to recognize or to report the disease, it may be stated that the evidence offered by the examination of infected squirrels leads to the belief that a comparatively small percentage of them have the bacilli circulating in their blood in any considerable numbers. Of about 250 infected squirrels of which we have complete records, only about one-fourth could have been regarded as septicemic at the time they were shot.

The chief menace of squirrel plague is, as has been recognized from the first by all of those who have occasion to deal with the subject, the danger of the infection of the rats of the cities, which might lead to more or less extensive outbreaks among human beings. The discussion of this problem is not within the scope of the present paper.

I wish to acknowledge here my indebtedness to the various physicians in the state in whose practices the cases occurred and who furnished me with the clinical data.

ABSTRACT OF DISCUSSION

Dr. Edward F. Wells, Chicago: The paper of Dr. McCoy is a very important one bearing on bubonic plague with special reference to ground squirrel origin. I should like to ask him for what purpose the animal was killed and what becomes of the carcass? Also does each species have special fleas of its own?

Dr. G. W. McCoy, San Francisco: The squirrels examined have all been killed or caught by hunters employed by the Public Health and Marine-Hospital Service for the purpose of securing specimens in order that the extent of the zone of plague infection may be determined accurately. As to the matter of fleas, in a general way we may say that each species has a special flea of its own, and, judging from what we have learned by experimental work on the lower animals, fleas from one species are capable of carrying the infection to other species, in addition to carrying it among the members of the species to which the particular flea properly belongs.

METHOD OF INFECTION IN PNEUMONIC PLAGUE *

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The object of the present investigation in Manchuria was to show, first, whether in cases of pneumonic plague pest bacilli become disseminated into the air by the vapor arising from the breath, as in ordinary or in dyspneic respiration, and second, whether the organisms are disseminated by moderate attacks of coughing of pneumonic plague patients in whom the cough does not result in the expulsion of particles of sputum visible to the naked eye. In the course of the experiments on a number of occasions during coughing, small droplets or larger particles of sputum, visible to the eye, were raised and touched the surface of the media on the plate cultures which were exposed before the plague patient. The study of these culture obviously is not included in this investigation. The cultures were invariably exposed before cases of pneumonic plague with bloody sputum, and in which enormous numbers of plague bacilli had been shown to be present. All of the patients, before whom the plates were exposed died of plague infection within twenty-four to forty-eight hours from the time of the exposure. Twelve series of experiments were performed in which seventy-eight plate cultures were exposed and the microorganisms which developed on them studied.

The experiments were performed in the following manner:

The plates were sterilized in the hot-air sterilizer within a metal plate-holder; they were then removed, the cultures poured in the usual way, and as soon as the medium was sufficiently hard, were replaced within the plate-holder and taken to the bedside of the patient, in the sputum of which plague bacilli had previously been found. All of the attendants were asked to retire from the room in order that as little dust as possible might be present in the air. The condition of the patient before whom the plates were exposed was noted, and during the exposure of the plate, the character of the respirations were particularly observed and notes made of whether coughing or talking occurred. The time of the exposure of the plate and the distance from the patient were also recorded in each instance. The plate was then returned to the holder and placed in the incubator. After twenty-four hours the cultures were examined for the appearance of colonies and their number counted, but the plates were not opened until after forty-eight or seventy-two hours. The colonies were then again counted and carefully studied. Any of the colonies which in any way resembled colonies of the plague bacillus were transplanted to agar slant cultures. The morphology and the staining properties of these organisms were then studied.

In every instance in which the morphology was at all similar to that of the plague bacillus or the organism decolorized by Gram's stain, it was inoculated either into mice or guinea-pigs. In a few cases the colonies were so thick on the plate, or surface growths from air contamination with bacteria were so extensive that the separate organisms could not be isolated and studied. In these instances a suspension of the whole plate was made and a portion of the suspension either rubbed over the scarified abdomen of a guinea-pig or inoculated subcutaneously into a mouse. On several occasions in which it seemed hopeless to determine whether the plague bacillus was present or not on the plate, owing to the extensive contamination of the culture with air organisms, the animal so inoculated died of plague. In a few instances the plates were discarded because of very extensive contamination from air organisms which covered the whole surface of the plate, with a very thick layer of growth. During the colder weather in Mukden the plates exposed before plague patients during ordinary respiration were frequently entirely sterile. The plates were exposed vertically before the mouth and nose of the patient; the time of exposure varied between two and five minutes; generally the shorter period was employed. In the experiments performed in the earlier part of the investigation the plates were held at a distance of from 2 or 3 inches to 3 or 4 feet from the mouth of the patient. Later in the experiments, when it became evident that in cases without cough during exposure, no plague bacilli were encountered at the greater distances, they were exposed at a distance of from 2 to 4 inches in front of the mouth and nose.

We shall not present here, in detail, the results obtained with each plate culture, these will appear when publication of the entire results are made. In thirty-nine instances the plates were exposed before patients who did not cough during the time of exposure, and notwithstanding the fact that many of the patients suffered with marked dyspnea and advanced edema of the lungs, in only a single instance was the plague bacillus encountered in one of these plate cultures,

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* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911

although in a number of the experiments the surface of the media was visibly wet by the vapor arising from the breath.

In this one case the conditions of the experiment were as follows:

> Three plate cultures were all exposed at a distance of about 3 inches, and for two minutes before a patient with marked dyspnea who died two hours afterward. A suspension of the bacterial growth which developed on one of these plates, and which covered almost the entire surface of the plate, was made, and a portion rubbed over the abdomen of a shaved guinea-pig with the side of a scalpel and the skin then freshly scarified. The animal died of plague infection six and a half days later; there were inguinal buboes and miliary nodules in the spleen.

The animals inoculated with the colonies from the other two plates exposed in exactly the same manner did not develop plague infection. The results obtained from this one plate are different from those obtained from the remaining thirty-eight plates. Two possible explanations of the result suggest themselves: (1) that the plague bacilli reached the plate exposed before the patient in the plague ward in some other way than by the expired air; (2) that the plate was infected with plague bacilli by the droplet method through the forced expirations of the patient during the time this one plate was exposed.

The remaining number of plate cultures, thirty-nine, were exposed before patients who coughed during the time of exposure, and in fifteen instances, colonies of plague bacilli developed on the exposed plates. In some cases more than 100 colonies of this organism were obtained on the cultures after a single cough, sometimes in almost pure culture.

Guinea-pigs in which the abdomen had been shaved and extensively scarified just before the time of the experiment, were exposed before three cases of pneumonic plague for a period of two minutes and at a distance of 2 inches from the mouth, the abdomen being placed toward the mouth. The breathing of the patient in all of these experiments was labored, so that the hair of the guinea-pigs waved back and forth in the breeze made by the expired air, but no cough occurred during the time of the exposure. The animals remained alive and did not develop plague infection.

The results of all these experiments are in accord with those of Nägel, Flügge and their pupils whose experiments showed conclusively that by currents of air bacteria are not lifted from moist surfaces, but that in the coughing of tuberculous patients the *Bacillus tuberculosis* might become disseminated into the air suspended in fine droplets (drop infection).

However, these observers concluded that in the case of pulmonary tuberculosis this was not a very practicable or frequent method of infection. In pneumonic plague the conditions are very different, owing to the enormous numbers of plague bacilli which are present in the lungs and bronchi. In our experiments, performed with cases of marked pulmonary edema, the conditions were also different. The opportunities for infection by means of the droplet method must be very great in a pneumonic plague ward.

CONCLUSIONS

1. During normal and dyspneic respiration of primary pneumonic plague patients, plague bacilli are not usually expelled by means of the expired air.

2. During the coughing of such patients, even when sputum visible to the naked eye is not expelled, plague bacilli in large numbers may become widely disseminated into the air surrounding the patient.

3. As to the distance from the patient that the air may be infected by droplets containing plague bacilli, this varies largely with the strength of the cough, the amount of mucus in the throat and larynx at the time, and the currents of air in circulation in the ward.

4. The idea that infection of doctors, nurses, attendants, etc., in plague hospitals is caused entirely by particles of sputum expectorated by the patient and visible to the naked eye, is erroneous. It follows from these experiments that the wearing of masks and the proper covering of any surface of the skin where fresh abrasions are present are important personal prophylactic measures in pneumonic plague. It also follows that the eyes should be protected against this manner of conjunctival infection by proper glasses.

5. Articles of clothing worn in the wards should immediately be sterilized after removal, since, even though no particles of sputum may be visible on them, plague bacilli may be present.

PREVENTIVE MEDICINE SECTION COMMITTEE REPORTS

REPORT OF COMMITTEE ON METHODS FOR THE CONTROL OF PLAGUE *

Your committee begs leave to report as follows: Plague infection exists to-day among the ground squirrels—rural rodents—of California. No infection, in man or rodent, has been found in the centers of population in California since the fall and winter of 1908, and none in the state of Washington since February, 1910, the last human case having occurred in Oakland, July 17, 1908. In the past two years more than 200,000 rats have been collected in San Francisco and Oakland and examined in the laboratory, without yielding a single case of infection. Your committee, therefore, is of the opinion that all traces of the disease have been eradicated from the cities about the bay. Notwithstanding the successful outcome of the anti-plague campaign the Public Health and Marine-Hospital Service intends to enforce prophylactic measures in these centers for a considerable period longer. These operations include building reforms, rat-proof construction, rat extermination ashore and aboard vessels, and such other methods as tend to exclude plague.

Numerous foci of infection have been found in the rural districts, affecting large areas in the central and coast counties of the state. Human cases have occurred in four of the counties covered by the epizootic, and in each case there existed an intimate association with ground squirrels. The epidemiologic observations and the laboratory work of the officers of the Public Health and Marine-Hospital Service show that these animals are the enzootic hosts of plague in America; in other words, they keep *B. pestis* alive until a favorable opportunity arrives for a human outbreak.

Methods for the control of the present situation should include the following measures:

1. The prevention of spread from rural to urban rodents by limiting the chances of contact and interchange of ectoparasites between the two. This suggests (a) the maintenance of squirrel-free zones around the centers of population; (b) prohibiting the marketing or traffic in rodents; (c) general rat destruction in the cities.

2. The prevention of a wider spread among rural rodents and the ultimate invasion of the eastern states by such means as the following: (a) destruction of known enzootic foci in the various counties; (b) general rodent extermination throughout California and the near-by states.

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* Read in the Section on Preventive Medicine of the American Medical Association, at its Sixty-Second Annual Session, held at Los Angeles, June, 1911.

This work should be continued where now in operation and inaugurated at once throughout the United States, and made a continuous, systematic measure. It should include the adoption of building ordinances, garbage regulations and systematic extermination in all cities but more especially in the sea-ports. There should be instituted without delay, in all cities, a system of collection and examination of rats so that an epizootic could be detected in time to apply preventive measures before the occurrence of human cases.

Your committee desires to commend the action of certain county supervisors in California for the energy displayed and wisdom shown in undertaking general rodent extermination at this time. It is an example that might well be followed by the health boards and other officials of the western states.

Rupert Blue, M.D., Chairman, San Francisco.
Elmer E. Heg, M.D., Seattle, Wash.
William F. Snow, M.D., Sacramento, Cal.

METHODS FOR THE CONTROL OF PLAGUE WITH SPECIAL REFERENCE TO ADMINISTRATIVE DETAILS

ARGUMENT SUPPORTING THE COMMITTEE'S REPORT *

RUPERT BLUE, M.D.
Surgeon Public Health and Marine-Hospital Service
SAN FRANCISCO

It would obviously be impossible in a brief paper to discuss the entire problem of plague control, but the general principles may be illustrated by a review of the measures that proved of value in the San Francisco campaign. A consideration of the methods for combating the further advances of the disease in this country is of special interest and should not be omitted from to-day's program.

There are some special considerations to be borne in mind in regard to this disease. Bubonic plague is primarily, and *par excellence*, a disease of the lower animals, human cases being mere accidents in the progress of an epizootic, and produced in most instances through the bites of infected fleas. There are other channels by which man may receive infection, such as inhalation and ingestion, but with these we are not concerned for the present inquiry into the rôle which animals have played in connection with the spread of plague showing that epidemics among men are invariably dependent on epizootics among animals.

The principal offenders of this zoologic group in California are the families *Sciuridæ* and *Muridæ*. Ground squirrels (*Citellus. Spermophilus*), tree squirrels (*Sciurus*) and marmots (*Arctomys*) compose the former, while of the latter there are numerous genera in this country, such as the domesticated rats (*Mus*) and the wild wood-rats (*Neotoma*) of the western, middle and southern states. A knowledge of the life-history of these animals is essential if the sanitarian would keep abreast of the times in all that pertains to his professional duties.

It can be laid down as a principle that measures directed against persons and things other than rodents will not check an epidemic of *bubonic* plague. In all recent epidemics much valuable time has been devoted to the enforced isolation of infected persons, the inoculation of those exposed to the disease, and the disinfection of infected houses, without adequate returns for the labor expended. These procedures, however, are efficient and can be relied on to stay an outbreak of *pneumonic* plague. Recent experiences in Harbin, Manchuria, show that such measures had an immediate effect in reducing the morbidity and finally in eradicating all traces of the epidemic.

Let it be understood, however, that I do not undervalue the importance of isolation and disinfection in anti-plague work. They should be enforced as auxiliary measures, and because of the fact that a bubonic case may become secondarily pneumonic and highly infectious and contagious.

MEASURES FOR COMBATING PLAGUE IN CENTERS OF POPULATION

The first requisite is a special plague organization having no duties other than those for which it is called into service. This should be placed under the direction of an expert sanitarian who, preferably, should have no local or political affiliations in the infected city.

For the convenience of administration the city should be divided into districts. Each district should have an experienced medical officer at its head, a sufficient number of sanitary inspectors, laborers and all necessary equipment for the expeditious handling of the work. A rapid sanitary survey should be made of each district, taking note of cases of sickness, insanitary conditions, rat mortality and prevalence, and the method of disposal of garbage. Daily reports of this work should be made to the central headquarters.

An indispensable adjunct of such an organization is the bacteriologic laboratory where all diagnoses should be verified, by appropriate means, and to which all rats and pathologic specimens should be sent for examination. A systematic bacteriologic examination of rats collected from all sections of the city should be carried out. Certain entomologic studies, more particularly in reference to the *Siphonaptera*, are also of interest.

Another important consideration—one most necessary in America—is legislation drafted especially to meet the extraordinary conditions existing in a plague-infected community. Epidemic outbreaks are of rare occurrence in this country, and, as a rule, no provision has been made in our laws, either state or municipal, for grave emergencies of this class. It will be necessary at the outset to draft a sanitary law, present it to the municipal council and request immediate action thereon.

If immediate and satisfactory legislation is secured, there is still another serious obstacle to be met, namely, the opposition of the people. This is always present, in some degree, in all commercial centers. If business has been seriously disturbed by the occurrence of panics, the local feeling may assume a very threatening tone. I recall an incident that occurred in the city of New Orleans where, during an epidemic of yellow fever, a physician was arrested and taken before a police justice for fumigating an infected residence.

The foregoing facts are related merely to emphasize the need of legal support and the importance of that other necessary feature of a successful campaign—the education of the public. The platform, press, pulpit and public schools should be utilized to place before the public the dangers of the situation. The story should be told in simple, forceful language in order that it may reach the understanding of all classes of citizens.

In the event that the press is lukewarm or hostile, there is no quicker or more satisfactory way of reaching the masses than through the civic bodies and women's clubs. Without the aid of the Citizen's Health Committee the San Francisco campaign would have dragged miserably at the cost of many valuable lives. No amount of education, however, will do away with the prejudices of some people. This is evidenced by the growing opposition to vaccination. Public education is hard work, and those who attempt it must be content to receive more "kicks than ha' pence." Self-control under the undeserved abuse of a hostile newspaper is, in my opinion, one of the essential qualifications of a good leader.

With such an organization it will be possible to rid a city of plague infection in a short time by the systematic destruction of rats. The most satisfactory method of exterminating them is by the employment of traps and poisons on a large scale. These measures should be supplemented by a simultaneous attack on the rats' food-supply and habitations. All edible refuse, or rat-pabulum, should be collected daily in metal receptacles and burned; the main harboring places should be sought out under wooden floors, in feed stables, granaries and warehouses, and destroyed. If these are made rat-proof, wherever practicable, by concreting the ground areas and side walls, and by screening all apertures near the ground level, rats will be deprived of their breeding-places.

The means above suggested will suffice to keep the rat population of the cities at a safe minimum. In centers where no such precautions are being taken every effort should be made to prevent the introduction of infected rats or squirrels and the parasites from these.

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* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

As to personal prophylaxis, it may be said that haffkinization or immunization has never been tried on a large scale in this country. In view of the brief immunity conferred (six months), and the personal discomfort which at times follows its use, it is not believed that the measure will ever become popular in our western civilization. The advisability of immunization for persons about to enter a plague-stricken city cannot be questioned, and the same applies to persons who are employed in antiplague measures. Yersin and Haffkine vaccines have both been used by us in San Francisco for the latter purpose. Vaccination, however, is not to be recommended as an eradicative measure.

POST-EPIDEMIC MEASURES

Of great importance in this connection is to know exactly when to discontinue the eradicative work. Antiplague operations require enormous financial outlays, and the municipal and state authorities will want to cut down appropriations at the very first indication that the epidemic is under control. What sign or indication, then, should govern our action in this matter?

The disappearance of human plague is not a safe criterion, nor is the failure to find infected rats to be depended on as a safe guide. It is safe to predict that the rat population will return in a short time, and if there is a vestige of the infection left it will light up again when the necessary combination of factors have ben restored.

It can be laid down as a universal standard that a certain amount of the work should be continued almost indefinitely after the last infected rat has been found. As a matter of fact, the enforcement of the building ordinances, and the special garbage regulations, must be made a permanent obligation on the city. These laws make for permanent civic immunity by building the rat out of existence. It will be necessary also to continue the work of rat extermination, on a somewhat smaller scale, by means of traps and poisons. The importance of keeping the rat population down to the minimum at such times, especially in certain threatened districts, cannot be too strongly emphasized.

Of interest in this connection is an examination of the records of the numbers of rats caught by months from September, 1907, to April, 1911, in San Francisco. The maximum catch was reached in the fall and winter of 1907. After that, although more rat catchers were employed, and a greater number of traps set daily, the catch diminished until a fixed monthly rate (index) was established. This indicates clearly if it indicates anything that a rat population can be controlled to a certain extent by appropriate means. Rat-proofing, however, is the most important single measure in the control of plague. The city which demands of its builders the rat-proofing of all buildings with concrete is insuring itself against a disastrous outbreak at some future day.

PLAGUE AS IT AFFECTS RURAL SANITATION IN CALIFORNIA

On the discovery of the existence of plague infection among the ground squirrels (*Citellus beecheyi*) of Contra Costa County, Cal., in the fall of 1908, it was realized at once that a serious feature had been added to the plague situation on the Pacific Coast. The investigations which were made then, and which have been carried to completion in the past two years, have confirmed that opinion. In view of the threatening possibilities, as above outlined, the surgeon-general authorized an ample allotment of the public health fund for the work.

The Pacific states, according to Merriam of the Geological Survey, are overrun with this and allied species of rodents, their ranges being continuous throughout the central and eastern portions of California. All states in which rodents are permitted to thrive unmolested should be regarded as infectible territory. The collection and bacteriologic examination of squirrels received from thirty-six counties showed that the infection was widespread.

It was long held by bacteriologists that the continued prevalence of plague in a locality (endemic) was due to the saprophytic power of the organism (*B. pestis*) which enabled it to live for long periods in soil and other inert material. The work of the Indian Plague Commission (1905), and other observers, directed the attention of the scientific world to a living intermediary (the rat) and this cleared up what had been a mystery for centuries. The finding of epizootic plague among the California ground squirrels accounts for the endemicity of the disease in this country.

Prevention of Spread from Rural to Urban Rodents.—The epizootic at present is limited to the former and should be eradicated before reinfection of the latter takes place. This is to be accomplished by carrying out the following measures:

A. Prevention of communication and the interchange of ectoparasites between the two by the creation and maintenance of rodent-free zones around the centers of population. This has been done at federal expense for the cities of San Francisco, Oakland, Alameda, Berkeley and Richmond.

B. Prohibition of transportation or traffic in rodents from one section to another by the application of state and municipal regulations. The California State Board of Health issued regulations against this practice as early as 1908.

Prevention of a Further Spread Among Rural Rodents.—This measure will afford protection to the adjacent states, Nevada, Oregon, Arizona and the Republic of Mexico which contain extensive infectible areas. Such measures should include the following:

A. Destruction of known enzootic foci. Extensive and valuable work of this character is being carried out under the direction of this Service in the ten infected counties.

B. General rodent destruction. This is to be taken up and carried on systematically and continuously in broad zones around the present infected areas, the idea being to limit the advance by breaking the chain, and to reduce the number of carriers (susceptible animals) so that if infection were introduced no wide-spread dissemination could ensue. It is an enterprise of great magnitude, as to cost and time, and can only be successfully managed by the adoption of a cooperative plan which must have the support of the individual farmers and county officials.

General extermination should be instituted as a systematic and continuous prophylactic measures in all Pacific and Mississippi Valley states. Interstate regulations should be so formulated as to prevent traffic in rodents from one to another except for scientific purposes. If not prohibited, it should be regulated and subjected to inspection under the most rigid precautions.

THE PREVENTION OF SPREAD BEYOND THE SEAS

Plague follows almost exclusively the lines of maritime commerce, and with but few exceptions the incidence of the disease is limited to the coast. The infection is conveyed to the shore, as a rule, by rats from infected ports, and the resulting rat mortality occurs first on the water front. As regards the source of rat supply, other than the natural local increase, it can be definitely stated that many rats come ashore from vessels engaged in the foreign and domestic trades.

Port regulations with regard to rat-guards (funnels) on hawsers and lines, as well as to fenders and gang planks are seldom effective. The funnels are generally too small, and not infrequently they are carelessly placed on mooring lines. It may be inferred from the foregoing that additional precautions should be taken to guard against rat infestations from abroad. This is undoubtedly necessary with regard to vessels coming from infected ports.

So important is this feature in the system of control herein advocated that mention should be made of the classification of ships as laid down by the Paris convention (1903), especially as it relates to the *indemne* vessel. Have events justified the exemption of vessels coming from plague-infected ports from the process of elimination of rats prior to entry? In answer to this question it can be stated that there are many quarantine officers in this country who believe that the *indemne* vessel should not be admitted to free pratique without first undergoing fumigation. The application of this measure is particularly indicated in instances in which vessels have embarked steerage passengers and cargo at an infected port. Exceptions may be made of vessels which have complied with all the quarantine laws and regulations of the United States for foreign ports.

Pandemics can be dealt with only through international regulations as follows:

1. The periodical fumigation of vessels to kill rats.
2. A medical surveillance of outgoing passenger and freight traffic at badly infected ports.
3. The appointment of an international commission to investigate and determine the location and extent of the endemic or enzootic centers, with authority to formulate plans for their eradication.
4. International notification of both epidemic and epizootic prevalence.

ABSTRACT OF DISCUSSION

ON PAPER AND REPORT OF DRS. BLUE, SNOW AND HEG

Dr. George E. Abbott, Pasadena, Cal.: In what I am about to say I do not wish to be considered as being opposed to the extermination of squirrels; on the contrary, I am most decidedly in favor of it. At the same time, however, I fear our present policy is prohibitory of success. I understand that there is an ordinance about to be enforced whereby the owners of land are to be made responsible for any rodents found on their premises. The extermination of even a small percentage of squirrels would, in many places, cost from five to ten times the value of the land per acre. Moreover, in many instances, the government land is the *greatest sinner*. This measure is manifestly unfair to the farmer. The most that can be asked the farmer is to do the work, while the state or government provides the material. Moreover, it is the towns-people who are crying for protection against the plague and its contagion. Let the cities, state and government furnish the weapons of war and then demand of the farmer the labor of exterminating the rodents, which will, at one and the same time, protect the people and the crops from destruction. My belief is that such measures would not have to be enforced, but would be gladly adopted by all.

Dr. J. W. Kerr, Washington, D. C.: As a colleague of Dr. Blue I am naturally very much interested in his work. It is not my intention, however, to discuss it, but rather to mention briefly some measures that have been taken by the federal government for the prevention of the introduction of plague from abroad.

The Quarantine Act of Feb. 15, 1893, authorizes the President to detail officers of the Public Health and Marine-Hospital Service for duty at infected ports abroad for the purpose of supervising American shipping to prevent the introduction of exotic diseases. It was my privilege, after the beginning of the outbreak of plague in San Francisco in 1900, to be etailed to the port of Hongkong, China. At that time the isease was very prevalent there, and had been prevailing for bout five or six years. The problem of the protection of American shipping was, accordingly, a difficult one, particurly on account of the close proximity of Manila to the port Hongkong. Cognizance had to be taken of the passengers, rgoes and crews of all ships. Every passenger leaving the port of Hongkong (and this is true of other infected ports in the Orient) was required to undergo inspection prior to embarkation. Foreign products, and particularly Chinese food-products, were inspected, not only just prior to loading, but where the food was stored, and also in the localities from which they came. As a result it was found that a very small amount of this kind of food was at all liable to carry plague infection, and probably never had carried it.

The most important means of protection against plague is preventing rats from gaining access to the ships while in harbor. It was the practice to disinfect ships periodically to kill rats; and this, in the case of trans-Pacific ships, was done every third voyage. By this means the rat population aboard ships was kept at a low ebb and greater protection was afforded in that way than any other. Since that time there has been an international agreement, adhered to by a number of foreign countries, as well as our own, for the prevention of the spread of plague, cholera and yellow fever in international commerce.

Dr. Blue referred to the necessity of the periodical disinfection of ships to free them from rodents. This has been brought to the attention of the permanent international committee, which has control of the International Office of Hygiene established at Paris in accordance with the International Sanitary Treaty of 1903. Furthermore, our quarantine regulations require the periodical disinfection of ships to kill rats at least once in six months; that is, any ship that has within a recent time been in an infected port. Dr. Blue referred to indemne ships as being subject to disinfection. An indemne ship is one which, although coming from an infected port, has had neither death nor case aboard, and these ships are practically always disinfected on arrival in our ports to kill rats.

With reference to the methods in a city to eradicate plague, I want to mention one measure that was adopted in Hongkong, the depopulation of infected areas. This was practically the only way that some local outbreaks there could be stopped.

A method of determining the extent of infected areas has been outlined by Dr. Heiser, Director of Health of the Philippine Islands, by which his rat-catchers catch rats along radiating lines toward the known infected center. These rats are examined in the laboratory and the circumference of the infected area is thus outlined. Since the above system was adopted plague has disappeared from Manila, in which city the disease has not prevailed for several years.

Dr. Elmer E. Heg, Seattle, Wash.: The fact that plague has prevailed only on the Pacific Coast in this country has had a tendency to cause our eastern brothers to think that this is a western subject only. If they would stop to think that London and Edinburgh and European ports have been infected, they would realize that we have a problem that should be studied by the eastern men interested in public health as well as by the western men; and it is only when they get an epidemic, or get a case of plague, that they will realize what they are up against. When they first had the plague in California, I was interested, but not materially so. I was interested as our eastern men are now. It was when we got the plague in Seattle that it became a different subject, and I have realized, for the past four years, what it is to have plague in one's own state. The committee, of which I am one, recommended that the extermination of rodents be continued indefinitely. This seems, perhaps, rather a strange, or rather a rigorous, recommendation. The fact is that the next to the last plague rat found in Seattle was found in September, 1908; and although from four or five hundred to a thousand rats daily were examined from that time on, no more plague rats were found until February, 1910, a year and a half after the last previous plague rat was caught. Now, whether this was a hold-over or whether it was a new infection, I cannot tell you. If it was a new infection, it must have come from somewhere else; and other cities are just as apt to get it as we were. We certainly had carefully examined the city for rats; and yet one appeared after an interval of one and one-half years.

The cities should protect themselves by their building ordinances and by a systematic examination of rats. Not only will it help them in controlling plague, but the commercial benefits will pay. The losses to merchants through rats are many times more than the cost of extermination or protection. Since we started in Seattle to exterminate rats we have gotten the different merchants interested and they keep it up right along, in conjunction with the city. It pays them to do it. And when you can appeal to a merchant and show him that his loss in merchandise is greater through the rat than the cost of keeping them out he becomes a sanitary agent; but you have got to show him that there is money in it.

One of the speakers mentioned the fact that the farmers would eradicate squirrels for the loss of crops but not to protect the cities. That illustrates the exact point. Only those who are interested in public health are willing to do anything unless there is a dollar in it; but the eradication of rats, and of ground-squirrels also, is certainly a commercial proposition, just as well as a sanitary proposition.

Dr. N. K. Foster, Oakland, Cal.: For a good many years Dr. Blue has stood by California and fought that disease pretty nearly to a finish; and we fully appreciate him in that part of the state. If our editors, and some of our public men, had been educated in the ordinary principles of truth, we would not have had the trouble in California that we did. In the first place, educate the people—and the children, beginning at the bottom—so that they will understand that plague is simply a disease that can be handled just as well as any other; that there is no especial danger in it if we handle it scientifically; teach them to meet the fact, and if plague breaks out that we are going to eradicate it, and that they have got to help to do it; but teach the children in the primary grades, in the grammar grades, and in the high-school grades, and up into the universities, just what it is and how to handle it. In California we are adopting at the present time a new book on physiology, hygiene and sanitation, and we are trying to get, and I think will get, a chapter on plague in that book. I would really advise, in conjunction with Dr. Heg, that you eastern men and women take up this question and study it carefully; for you cannot tell how quickly it will come to your doors. I have believed ever since it broke out here, that some time you will have it. I hope you will not, for, as Dr. Heg says, it is a very different thing when you get it at your own door and have to fight it, from when it is away off in California or Washington. The next thing that I would emphasize is to have every one rat-proof his own building. It can be cheaply done. Simply have the basement of your house of other building spread with concrete so that the rat cannot get through. If he gets into your house, let it be through the same opening that you go and you will be practically safe.

REPORT OF COMMITTEE ON METHODS FOR THE CONTROL OF EPIDEMIC POLIOMYELITIS *

Within the last two years the attention of the medical profession has been strongly directed to the prevention of poliomyelitis, first, because of its increasing prevalence in epidemic form and the serious nature of its after-effects; and, secondly, because it has been shown to be an infectious disease due to a filterable virus, probably a specific microorganism, from which the inference has been very naturally drawn that it is necessarily preventable.

As regards its prevalence, there can be no doubt that it has very greatly increased in recent years, especially in the United States. During the year 1909 not less than 2,500 cases were reported as occurring in epidemics in the United States. During that year 539 deaths, indicating probably not less than 5,000 cases, were reported from the registration area comprising 55 per cent. of the population of the United States.

For the year 1910, 5,093 cases and 825 deaths have been reported to the Surgeon-General of the Public Health and Marine-Hospital Service from thirty-one states, the District of Columbia and Hawaii. It can hardly be doubted that these statistics give a very imperfect and much too low estimate of the prevalence of the disease. Granting, however, a prevalence several times as great as reported, a mortality of 5 to 20 per cent., and permanent disability in perhaps 75 per cent. of the survivors, still the magnitude of the public health problem involved has undoubtedly been greatly exaggerated. Compared with the ravages of tuberculosis, pneumonia, typhoid fever, infantile diarrhea, scarlet fever, diphtheria, measles, whooping-cough, and even of such a comparatively rare disease as cerebrospinal fever, the havoc wrought by poliomyelitis on the country at large, while not negligible, is yet very small.

As regards its preventability also there has seemingly been some hasty and unwarranted optimism. Inferences drawn from laboratory studies of experimental poliomyelitis have been applied to the disease as occurring in nature with too little consideration of the vast differences between laboratory and natural conditions. While laboratory experiments have, it is true, furnished indications not only that poliomyelitis is preventable, but also to some extent of the methods by which its prevention may be accomplished, the final proof of preventability, namely, demonstrable control of the disease, is still lacking.

In the absence of data as to the actual efficacy of preventive measures, the present report must necessarily be drawn up on theoretical grounds, from data which are, in some essential respects, deficient. The facts needed for the deduction of effective preventive measures for an infectious disease include the following or a close approximation to them:

1. A knowledge of the specific causative agent—its habitat, the conditions necessary for its life and propagation, and the agencies by which it may be destroyed.
2. A knowledge of the means by which the causative agent may be and most commonly is transmitted from its habitat to healthy persons, and the avenue by which it gains entrance to the human body.
3. A knowledge of the conditions which constitute susceptibility to infection by the agent when it has been introduced into the body.

The knowledge of these facts may be effectually applied to the prevention of the disease; provided that the causative agent can be controlled or destroyed in some part of its life history, or that immunity to the infection can be established by measures of practical application.

As a preliminary to the presentation of any recommendations regarding methods for the control of poliomyelitis, it seems necessary to summarize as briefly as possible the essential facts known concerning its etiology and dissemination.

I. EXPERIMENTAL STUDIES

1. The Specific Causative Agent or Virus.—The successful transmission of poliomyelitis from man to monkeys, and from monkey to monkey, has demonstrated that the disease is due to a specific virus which passes readily through a bacteria-proof filter. Several observers have reported the demonstration of minute bodies in the filtrate from emulsions of the cord of infected monkeys. Much larger bodies have been found by the Pennsylvania health authorities in the blood of infected persons and monkeys. It has not, however, been established that the bodies demonstrated either in the blood or in the filtrates are the causative organisms.

Although the virus has probably been cultivated on artificial media, such cultures offer no practical aid to its isolation or identification. Its recognition, therefore, depends solely on the characteristic effects produced in animals.

2. Habitat of the Virus.—The virus of poliomyelitis has been shown to be present in the following locations:

A. In man: In the spinal cord and bulb (and possibly in the spleen, blood and cerebrospinal fluid) of persons who have died during the acute stage of the infection.

B. In lower animals: In monkeys experimentally infected the virus has been found in the brain, spinal cord; mesenteric, axillary and salivary glands, and in the nasal and pharyngeal mucous membrane. It has been found in the blood and cerebrospinal fluid only in the early stages of infection, and apparently in great dilution. In the nasopharyngeal mucous membrane it has been found to persist for as long as five months after the acute stage of the infection.

Several observers claim to have reproduced the disease in rabbits by inoculation with human virus and to have propagated the infection thence to other rabbits and to monkeys. Some doubt, however, remains concerning the transmission of poliomyelitis to rabbits. The majority of observers have found them insusceptible, and those who have reported success in transmitting the disease have failed to find characteristic histologic lesions. With the exception of these somewhat doubtful demonstrations in rabbits, the virus has not been found in lower animals other than experimentally infected monkeys. Inoculations of other varieties of laboratory and domestic animals have given only negative results. None of these animals (guinea-pigs, rats, mice, dogs, cats, sheep, goats, hogs, horses, chickens and pigeons) has so far been found susceptible to the disease. Also, pathologic and experimental studies on mammals and fowls suffering from paralysis similar to human poliomyelitis have failed to establish any etiologic relation between such diseases and poliomyelitis.

C. Outside the animal body: The virus has never been found outside the animal body. Its demonstration in the nasopharyngeal mucous membrane and salivary glands of experimentally infected monkeys has led to the inference that the nasal and buccal secretions contain the virus. However, experiments made to demonstrate the infectiveness of these secretions, as well as of the urine and feces of infected persons and monkeys, have been uniformly unsuccessful.

3. Viability of the Virus.—Studies on viability have been necessarily confined to animal tissues containing the virus. Under these conditions the virus has been found easily destroyed by heat (45 to 50 C.) and by comparatively weak disinfectants. It has been found resistant to low temperatures, desiccation and the action of glycerin.

4. Vehicles of Transmission and Avenues of Infection.—Since the virus has been found only in the tissues of naturally infected persons and experimentally infected animals (of a plied with all the quarantine laws and regulations of the United States for foreign ports.

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* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

Pandemics can be dealt with only through international regulations as follows:

1. The periodical fumigation of vessels to kill rats.
2. A medical surveillance of outgoing passenger and freight traffic at badly infected ports.
3. The appointment of an international commission to investigate and determine the location and extent of the endemic or enzootic centers, with authority to formulate plans for their eradication.
4. International notification of both epidemic and epizootic prevalence.

ABSTRACT OF DISCUSSION

ON PAPER AND REPORT OF DRS. BLUE, SNOW AND HEG

Dr. George E. Abbott, Pasadena, Cal.: In what I am about to say I do not wish to be considered as being opposed to the extermination of squirrels; on the contrary, I am most decidedly in favor of it. At the same time, however, I fear our present policy is prohibitory of success. I understand that there is an ordinance about to be enforced whereby the owners of land are to be made responsible for any rodents found on their premises. The extermination of even a small percentage of squirrels would, in many places, cost from five to ten times the value of the land per acre. Moreover, in many instances, the government land is the greatest sinner. This measure is manifestly unfair to the farmer. The most that can be asked the farmer is to do the work, while the state or government provides the material. Moreover, it is the towns-people who are crying for protection against the plague and its contagion. Let the cities, state and government furnish the weapons of war and then demand of the farmer the labor of exterminating the rodents, which will, at one and the same time, protect the people and the crops from destruction. My belief is that such measures would not have to be enforced, but would be gladly adopted by all.

Dr. J. W. Kerr, Washington, D. C.: As a colleague of Dr. Blue I am naturally very much interested in his work. It is not my intention, however, to discuss it, but rather to mention briefly some measures that have been taken by the federal government for the prevention of the introduction of plague from abroad.

The Quarantine Act of Feb. 15, 1893, authorizes the President to detail officers of the Public Health and Marine-Hospital Service for duty at infected ports abroad for the purpose of supervising American shipping to prevent the introduction of exotic diseases. It was my privilege, after the beginning of the outbreak of plague in San Francisco in 1900, to be detailed to the port of Hongkong, China. At that time the disease was very prevalent there, and had been prevailing for about five or six years. The problem of the protection of American shipping was, accordingly, a difficult one, particularly on account of the close proximity of Manila to the port of Hongkong. Cognizance had to be taken of the passengers, cargoes and crews of all ships. Every passenger leaving the port of Hongkong (and this is true of other infected ports in the Orient) was required to undergo inspection prior to embarkation. Foreign products, and particularly Chinese food-products, were inspected, not only just prior to loading, but where the food was stored, and also in the localities from which they came. As a result it was found that a very small amount of this kind of food was at all liable to carry plague infection, and probably never had carried it.

The most important means of protection against plague is preventing rats from gaining access to the ships while in harbor. It was the practice to disinfect ships periodically to kill rats; and this, in the case of trans-Pacific ships, was done every third voyage. By this means the rat population aboard ships was kept at a low ebb and greater protection was afforded in that way than any other. Since that time there has been an international agreement, adhered to by a number of foreign countries, as well as our own, for the prevention of the spread of plague, cholera and yellow fever in international commerce.

Dr. Blue referred to the necessity of the periodical disinfection of ships to free them from rodents. This has been brought to the attention of the permanent international committee, which has control of the International Office of Hygiene established at Paris in accordance with the International Sanitary Treaty of 1903. Furthermore, our quarantine regulations require the periodical disinfection of ships to kill rats at least once in six months; that is, any ship that has within a recent time been in an infected port. Dr. Blue referred to indemne ships as being subject to disinfection. An indemne ship is one which, although coming from an infected port, has had neither death nor case aboard, and these ships are practically always disinfected on arrival in our ports to kill rats.

With reference to the methods in a city to eradicate plague, I want to mention one measure that was adopted in Hongkong, the depopulation of infected areas. This was practically the only way that some local outbreaks there could be stopped.

A method of determining the extent of infected areas has been outlined by Dr. Heiser, Director of Health of the Philippine Islands, by which his rat-catchers catch rats along radiating lines toward the known infected center. These rats are examined in the laboratory and the circumference of the infected area is thus outlined. Since the above system was adopted plague has disappeared from Manila, in which city the disease has not prevailed for several years.

Dr. Elmer E. Heg, Seattle, Wash.: The fact that plague has prevailed only on the Pacific Coast in this country has had a tendency to cause our eastern brothers to think that this is a western subject only. If they would stop to think that London and Edinburgh and European ports have been infected, they would realize that we have a problem that should be studied by the eastern men interested in public health as well as by the western men; and it is only when they get an epidemic, or get a case of plague, that they will realize what they are up against. When they first had the plague in California, I was interested, but not materially so. I was interested as our eastern men are now. It was when we got the plague in Seattle that it became a different subject, and I have realized, for the past four years, what it is to have plague in one's own state. The committee, of which I am one, recommended that the extermination of rodents be continued indefinitely. This seems, perhaps, rather a strange, or rather a rigorous, recommendation. The fact is that the next to the last plague rat found in Seattle was found in September, 1908; and although from four or five hundred to a thousand rats daily were examined from that time on, no more plague rats were found until February, 1910, a year and a half after the last previous plague rat was caught. Now, whether this was a hold-over or whether it was a new infection, I cannot tell you. If it was a new infection, it must have come from somewhere else; and other cities are just as apt to get it as we were. We certainly had carefully examined the city for rats; and yet one appeared after an interval of one and one-half years.

The cities should protect themselves by their building ordinances and by a systematic examination of rats. Not only will it help them in controlling plague, but the commercial benefits will pay. The losses to merchants through rats are many times more than the cost of extermination or protection. Since we started in Seattle to exterminate rats we have gotten the different merchants interested and they keep it up right along, in conjunction with the city. It pays them to do it. And when you can appeal to a merchant and show him that his loss in merchandise is greater through the rat than the cost of keeping them out he becomes a sanitary agent; but you have got to show him that there is money in it.

One of the speakers mentioned the fact that the farmers would eradicate squirrels for the loss of crops but not to protect the cities. That illustrates the exact point. Only those who are interested in public health are willing to do anything unless there is a dollar in it; but the eradication of rats, and of ground-squirrels also, is certainly a commercial proposition, just as well as a sanitary proposition.

Dr. N. K. Foster, Oakland, Cal.: For a good many years Dr. Blue has stood by California and fought that disease pretty nearly to a finish; and we fully appreciate him in that part of the state. If our editors, and some of our public men, had been educated in the ordinary principles of truth, we would not have had the trouble in California that we did. In the first place, educate the people—and the children, beginning at the bottom—so that they will understand that plague is simply a disease that can be handled just as well as any other: that there is no especial danger in it if we handle it scientifically; teach them to meet the fact, and if plague breaks out that we are going to eradicate it, and that they have got to help to do it; but teach the children in the primary grades, in the grammar grades, and in the high-school grades, and up into the universities, just what it is and how to handle it. In California we are adopting at the present time a new book on physiology, hygiene and sanitation, and we are trying to get, and I think will get, a chapter on plague in that book. I would really advise, in conjunction with Dr. Heg, that you eastern men and women take up this question and study it carefully; for you cannot tell how quickly it will come to your doors. I have believed ever since it broke out here, that some time you will have it. I hope you will not, for, as Dr. Heg says, it is a very different thing when you get it at your own door and have to fight it, from when it is away off in California or Washington. The next thing that I would emphasize is to have every one rat-proof his own building. It can be cheaply done. Simply have the basement of your house of other building spread with concrete so that the rat cannot get through. If he gets into your house, let it be through the same opening that you go and you will be practically safe.

REPORT OF COMMITTEE ON METHODS FOR THE CONTROL OF EPIDEMIC POLIOMYELITIS *

Within the last two years the attention of the medical profession has been strongly directed to the prevention of poliomyelitis, first, because of its increasing prevalence in epidemic form and the serious nature of its after-effects; and, secondly, because it has been shown to be an infectious disease due to a filterable virus, probably a specific microorganism, from which the inference has been very naturally drawn that it is necessarily preventable.

As regards its prevalence, there can be no doubt that it has very greatly increased in recent years, especially in the United States. During the year 1909 not less than 2,500 cases were reported as occurring in epidemics in the United States. During that year 539 dea[illegible] not less than 5,000 cases, were reporte[illegible] area comprising 55 per cent. of the [illegible] States.

For the year 1910, 5,093 cases and 825 deaths have been reported to the Surgeon-General of the Public Health and Marine-Hospital Service from thirty-one states, the District of Columbia and Hawaii. It can hardly be doubted that these statistics give a very imperfect and much too low estimate of the prevalence of the disease. Granting, however, a prevalence several times as great as reported, a mortality of 5 to 20 per cent., and permanent disability in perhaps 75 per cent. of the survivors, still the magnitude of the public health problem involved has undoubtedly been greatly exaggerated. Compared with the ravages of tuberculosis, pneumonia, typhoid fever, infantile diarrhea, scarlet fever, diphtheria, measles, whooping-cough, and even of such a comparatively rare disease as cerebrospinal fever, the havoc wrought by poliomyelitis on the country at large, while not negligible, is yet very small.

As regards its preventability also there has seemingly been some hasty and unwarranted optimism. Inferences drawn from laboratory studies of experimental poliomyelitis have been applied to the disease as occurring in nature with too little consideration of the vast differences between laboratory and natural conditions. While laboratory experiments have, it is true, furnished indications not only that poliomyelitis is preventable, but also to some extent of the methods by which its prevention may be accomplished, the final proof of preventability, namely, demonstrable control of the disease, is still lacking.

In the absence of data as to the actual efficacy of preventive measures, the present report must necessarily be drawn up on theoretical grounds, from data which are, in some essential respects, deficient. The facts needed for the deduction of effective preventive measures for an infectious disease include the following or a close approximation to them:

1. A knowledge of the specific causative agent—its habitat, the conditions necessary for its life and propagation, and the agencies by which it may be destroyed.
2. A knowledge of the means by which the causative agent may be and most commonly is transmitted from its habitat to healthy persons, and the avenue by which it gains entrance to the human body.
3. A knowledge of the conditions which constitute susceptibility to infection by the agent when it has been introduced into the body.

The knowledge of these facts may be effectually applied to the prevention of the disease, provided that the causative agent can be controlled or destroyed in some part of its life history, or that immunity to the infection can be established by measures of practical application.

As a preliminary to the presentation of any recommendations regarding methods for the control of poliomyelitis, it seems necessary to summarize as briefly as possible the essential facts known concerning its etiology and dissemination.

I. EXPERIMENTAL STUDIES

1. The Specific Causative Agent or Virus.—The successful transmission of poliomyelitis from man to monkeys, and from monkey to monkey, has demonstrated that the disease is due to a specific virus which passes readily through a bacteria-proof filter. Several observers have reported the demonstration of minute bodies in the filtrate from emulsions of the cord of infected monkeys. Much larger bodies have been found by the Pennsylvania health authorities in the blood of infected persons and monkeys. It has not, however, been established that the bodies demonstrated either in the blood or in the filtrates are the causative organisms.

Although the virus has probably been cultivated on artificial media, such cultures offer no practical aid to its isolation or identification. Its recognition, therefore, depends solely on the characteristic effects produced in animals.

2. Habitat of the Virus.—The virus of poliomyelitis has been shown to be present in the following locations:

A. In man: In the spinal cord and bulb (and possibly in the spleen, blood and cerebrospinal fluid) of persons who have died during the acute stage of the infection.

B. In lower animals: In monkeys experimentally infected the virus has been found in the brain, spinal cord; mesenteric, axillary and salivary glands, and in the nasal and pharyngeal mucous membrane. It has been found in the blood and cerebrospinal fluid only in the early stages of infection; and apparently in great dilution. In the nasopharyngeal mucous membrane it has been found to persist for as long as five months after the acute stage of the infection.

Several observers claim to have reproduced the disease in rabbits by inoculation with human virus and to have propagated the infection thence to other rabbits and to monkeys. Some doubt, however, remains concerning the transmission of poliomyelitis to rabbits. The majority of observers have found them insusceptible, and those who have reported success in transmitting the disease have failed to find characteristic histologic lesions. With the exception of these somewhat doubtful demonstrations in rabbits, the virus has not been found in lower animals other than experimentally infected monkeys. Inoculations of other varieties of laboratory and domestic animals have given only negative results. None of these animals (guinea-pigs, rats, mice, dogs, cats, sheep, goats, hogs, horses, chickens and pigeons) has so far been found susceptible to the disease. Also, pathologic and experimental studies on mammals and fowls suffering from paralysis similar to human poliomyelitis have failed to establish any etiologic relation between such diseases and poliomyelitis.

C. Outside the animal body: The virus has never been found outside the animal body. Its demonstration in the nasopharyngeal mucous membrane and salivary glands of experimentally infected monkeys has led to the inference that the nasal and buccal secretions contain the virus. However, experiments made to demonstrate the infectiveness of these secretions, as well as of the urine and feces of infected persons and monkeys, have been uniformly unsuccessful.

3. Viability of the Virus.—Studies on viability have been necessarily confined to animal tissues containing the virus. Under these conditions the virus has been found easily destroyed by heat (45 to 50 C.) and by comparatively weak disinfectants. It has been found resistant to low temperatures, desiccation and the action of glycerin.

4. Vehicles of Transmission and Avenues of Infection.—Since the virus has been found only in the tissues of naturally infected persons and experimentally infected animals (of a species which cannot be considered of importance in its natural transmission), the carriers of the infection outside the human body can only be inferred from the biology of the virus and the epidemiology of the disease. Laboratory studies so far indicate (although they do not prove) that the virus has no natural animal host except man, and that its viability outside the human body is short. To that extent they indicate direct transmission from person to person.

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* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

Possible avenues of infection experimentally demonstrated are numerous. Monkeys may be infected by inoculation into the brain, cerebrospinal canal, peripheral nerves, vascular system, peritoneal cavity, anterior chamber of the eye, or subcutaneous tissue. They have been infected through the digestive tract by introducing massive doses of the virus into the stomach or intestines, peristalsis being retarded by the administration of opium. Through the respiratory tract infection has been caused by rubbing the virus into the scarified nasal mucous membrane, and in one instance through the intact nasopharyngeal mucosa.

5. Susceptibility.—Laboratory experiments have thrown practically no light on the conditions determining natural susceptibility or immunity to the infection. Monkeys are almost uniformly susceptible to artificial infection by inoculation. They have not, however, been known to contract the disease spontaneously, although in several laboratories considerable numbers of them have been kept in contact with artificially infected monkeys. Acquired immunity, both active and passive, has been shown; but no practical means of immunizing persons has been developed. The susceptibility of monkeys may be diminished by the administration of hexamethylenamin, and it is reasonable to infer that this may apply also to human beings.

II. EPIDEMIOLOGIC STUDIES

Satisfactory epidemiologic data from which to draw inferences as to the transmission of poliomyelitis are scant. Such data are lacking, both in extensiveness, failing to give an accurate idea of the prevalence and distribution of endemic and epidemic cases, and also in accuracy of detail, failing to give full enough information concerning the cases studied.

The following important facts are, however, pretty well established:

1. Geographic Distribution.—Epidemics have occurred over a very wide, not definitely limited area, including all sections of the United States, various parts of Canada and the West Indies, most if not all the European countries, Australia and Micronesia. Sporadic cases are of even wider distribution.

The distribution of epidemic areas is quite peculiar, showing no constant definite relation to previous epidemic foci, to density of population or to the amount of communication by travel. In general, it is true that densely populated cities suffer relatively less than rural districts. Epidemics have sometimes appeared to be confined to certain water-courses, and investigations in Pennsylvania seem to show a greater prevalence of the disease over old formations, poorly drained, than over gravel formations, but no constant relation has been shown to exist between topographic or telluric conditions and the occurrence of epidemics.

2. Seasonal Prevalence.—In the northern hemisphere the disease is markedly more prevalent during the summer and fall months; in the southern hemisphere during the winter and spring. In general, hot, dry weather seems to be one of the conditions most favorable for its spread.

3. Incidence of Disease Among Population.—The total attack-rate in the population of any considerable area is always small. It is seldom that more than one to ten per thousand are attacked, and even this latter rate is not often reached in a population of more than a few thousand. The greatest incidence, both actual and relative, is in the first decade of life, usually from the second to the fifth year. The proportion of adults to children attacked varies greatly, however, in different epidemics. More males than females are attacked. Such statistics as are available indicate that during the first decade of life males and females are attacked at approximately the same rate, but that in later life males are attacked much more frequently.

4. Origin and Means of Dissemination of Epidemics.—None of the epidemiologic investigations undertaken can be said to have shown the origin and means of dissemination of epidemics. Practically all observers have failed to find any relation between the spread of the disease and certain factors commonly operative in the dissemination of many infectious diseases, namely, food and water-supplies, crowding and insanitary environment.

Regarding other factors, findings have been various and opinions divergent.

A. Contagiousness.—Direct Transmission from Person to Person: The most comprehensive and in many respects most reliable information on this point is derived from a study of the attack-rate in persons known to have been in intimate contact with recognized acute cases. A study of multiple cases in families, institutions and schools shows that only a small proportion of persons known to have been in such contact have subsequently developed the disease. Therefore, if we limit recognized cases to persons with *actual paralysis*, it must be admitted that the disease is usually very slightly contagious as compared with scarlet fever, measles, diphtheria or typhoid fever.

On the other hand, studies of small outbreaks have not infrequently shown indications of direct transmission, and occasionally an apparently high degree of contagion. This is especially true in instances in which abortive cases have been included in the epidemiologic studies. Studies of this kind are, however, too few to furnish a basis for general conclusions and to eliminate the error introduced by personal bias in the inclusion of abortive cases.

For the present it may be concluded that few clinically recognized cases can be traced to contact with previous clinically recognized cases. If the disease is transmitted by direct contact, paralytic cases must be a small factor in its dissemination.

Factors of possibly greater importance are:

1. Abortive and Clinically Unrecognized Cases: The existence of such cases, often so mild as to be ambulant, has been inferred on clinical evidence and confirmed by the demonstration of apparently specific microbicidal properties in the blood-serum of a number of suspected cases.

2. Carriers: The experiments of Osgood and Lucas, and of Flexner and Clark, demonstrating that the virus may persist in the nasal mucous membrane of artificially infected monkeys for several weeks—in one instance as long as five months—indicate the probable existence of human chronic (convalescent) carriers. The existence of healthy carriers—persons in whose bodies the virus multiplies without causing infection—can only be surmised at present. Numerous cases are cited in which infection has apparently been conveyed by a healthy intermediate person. The epidemiology of cerebrospinal meningitis has been interpreted as offering an analogy to this method of transmission, furnishing an example of a disease spread by healthy carriers, whose number has in many instances appeared to be greater than the number of persons actually suffering from the disease.

The presumption of healthy carriers, namely, persons harboring the germs but not suffering from the infection, carries with it as a necessary corollary individual variations in susceptibility. The existence of abortive cases, while not proving this assumption, tends to confirm it. The uneven distribution of the disease in different age groups and between males and females, and also its seasonal distribution, suggest variations in susceptibility as their explanation. To offer variations in susceptibility as an explanation of the irregular incidence of the disease is, however, begging the question unless some satisfactory demonstration of such variations can be offered at the same time. It is reasoning in a circle to advance a variable factor of susceptibility in explanation of the irregular incidence of a disease and then to advance the irregular incidence as a proof of variable susceptibility. Satisfactory proof that susceptibility to poliomyelitis varies to any considerable extent is lacking. While, therefore, it is reasonable to suppose that the element of individual susceptibility is a factor in the epidemiology of this disease, its importance is as yet undetermined.

The digestive tract as the avenue of infection is suggested by several facts, namely, the seasonal prevalence, the greater incidence in childhood and the early and almost constant occurrence of gastro-intestinal symptoms in the acute stage.

On the theory of poliomyelitis being directly transmissible from person to person, it is difficult to offer a satisfactory explanation of its uneven distribution in relation to density of population and travel.

B. Theories explaining the dissemination of poliomyelitis by agencies other than direct transmission from person to person are worthy of careful consideration. Of these theories, the one which appears to the committee to have the best basis of fact assumes that the disease is transmitted from lower animals to man. This theory is supported by the occurrence among domestic animals (horses, dogs, cats, sheep, hogs, cattle and poultry) of paralytic diseases clinically resembling acute anterior poliomyelitis. Experimental studies have so far failed to show that such diseases are in any way etiologically allied to the human disease and have, on the other hand, shown that these animals are insusceptible to inoculation with the virus derived from human cases.

The distribution of paralytic diseases in animals in relation to human poliomyelitis has not been determined with all desirable accuracy, and it is therefore impossible to state at present how closely it corresponds to the distribution of human poliomyelitis.

It has been suggested that the disease is conveyed from horses to man by dust from barnyards and streets. The evidence in favor of this theory is as follows:

1. The greater frequency of the disease in the country and in small villages than in more densely populated cities where, as a rule, streets are better paved and less dusty.

2. Its greatest prevalence during the season when dust is generally most prevalent.

3. Its greatest prevalence among children at the age when they commonly play in the dust, and its greater prevalence among adult males; who are relatively more out of doors than in females who are more intimately exposed to contact with the sick.

4. The distribution of cases in several towns on the more dusty streets; and the cessation of several epidemics after sprinkling the streets.

The probability of some insect being a factor in the transmission of poliomyelitis has been suggested by several epidemiologic observations, namely:

1. A seasonal prevalence corresponding to the maximum prevalence and activity of many varieties of insects.

2. The irregular distribution of epidemics. Outbreaks have occurred simultaneously or consecutively in localities separated by wide, often densely populated and much-traveled areas in which the disease has not been epidemic.

3. The relatively greater prevalence of the disease in rural communities and in small towns than in large densely populated cities, where the opportunities for the spread of diseases transmissible directly from person to person are generally greater.

4. The absence, in epidemic areas, of any constant and obvious relation between cases in regard to proximity, intercommunication or exposure to readily discernible common sources of infection.

Such peculiarities in the epidemiology of poliomyelitis have been thought by some to be most readily explained by the assumption that some insect, showing corresponding peculiarities in its distribution and activities is a necessary factor in the spread of the disease. Dr. Conn of the Connecticut State Board of Health has recently suggested the flea as a probable carrier of the infection. It is doubtful, however, whether all the facts known concerning the biology of the flea are in accord with this hypothesis.

III. RECOMMENDATIONS

The committee recommends, as the most important step toward the prevention of poliomyelitis, further studies of its means of transmission and of the factors of immunity.

While it is hoped that experimental studies on the transmission of the disease will be continued and will be as productive of results in the future as in the past, neither recommendations nor prophecies in this regard come within the scope of this report.

The collection of data which it is believed will greatly enlighten the question, and the collection of which is quite practicable, is recommended as follows:

1. Prevalence.—It is obviously of the greatest epidemiologic importance to determine as accurately as possible the prevalence and distribution of the disease. This can be accomplished most efficiently and thoroughly through state and municipal health organizations, by requiring that poliomyelitis be reported as an infectious disease. In the absence of any definite diagnostic criterion except paralysis, reports could, for the present, be required of paralytic cases only. It is desirable, moreover, that morbidity and mortality statistics should, for the present, be based on definitely diagnosed paralytic cases. Abortive cases should be included wherever practicable in the statistics of the disease, but should be designated as such and tabulated separately.

2. Diagnosis.—Further and more detailed studies of the symptomatology and of the blood and cerebrospinal fluid of patients in the preparalytic stage and of suspected abortive cases are needed to establish a more definite standard of diagnosis. For collective studies of this kind local medical societies have opportunities which are rarely available to public health organizations.

3. Epidemiology.—In connection with the collection of morbidity reports, state and municipal health authorities can, by obtaining more detailed reports, collect data of considerable epidemiologic importance. Valuable studies based on data so collected have already been made by several state and city health organizations and by medical societies. The value of the data so collected would be much increased by greater uniformity in the methods of collecting them. The employment of a uniform blank for this purpose is recommended.

It is necessary, however, for a better understanding of the transmission of the disease, that such studies be supplemented by more detailed information, based on a systematic epidemiologic study of individual cases by competent epidemiologists. Studies of this nature have already been undertaken in several states and have resulted in the collection of the most thorough, instructive and satisfactory data so far available.

The objects of an intensive study should be to determine as accurately as possible:

1. Clinical types with special reference to early diagnosis with the aid of laboratory methods.

2. The actual prevalence of the disease in each community studied. This would necessitate an investigation not only of definite paralytic cases, but also of suspected abortive cases.

3. The distribution of cases and their relation to each other and to possible common causes. Among the etiologic factors other than direct contact which deserve especial study are: the prevalence of paralytic diseases among animals; meteorologic conditions, especially the prevalence of dust; immediate environmental conditions with special reference to crowding, sewage disposal and the presence of insects; food and water-supplies; the prevalence of other diseases.

Pending the results of further investigations, the committee recommends the following preventive measures based on the assumption that the disease is directly transmissible from person to person.

1. Isolation and screening of all patients known to have or suspected of having the disease. Since a positive diagnosis can be made only on the appearance of paralysis, which usually develops one to six days after the onset of febrile symptoms, and in abortive cases does not appear at all, isolation, to offer any hope of effectiveness, must be instituted on suspicion. Three weeks from onset is suggested as the period of isolation, although only a surmise can be made on this point.[1]

2. Disinfection of all discharges from patients, and of all articles used by them and their attendants.

3. Fumigation of the premises with formaldehyd on release from isolation.[2]

4. A quarantine of persons in contact with patients does not seem at present justifiable. It is recommended, however, that members of patients' families be excluded from schools during the period of the patients' isolation and during the possible incubation period of a new case; that is, for three weeks following the end of the last exposure to the (presumptively) contagious person.

5. For the protection of persons presumably exposed to infection, namely, those in contact with the sick and in communities where the disease is epidemic, the daily administration of hexamethylenamin seems to offer some hope of reducing susceptibility. It seems not unreasonable to suppose that susceptibility, especially of young children, may perhaps be further modified by preserving the gastro-intestinal tract in normal condition, by avoiding dietetic errors, by prompt attention to slight gastro-intestinal disturbances and by the avoidance of overexertion in hot weather. Rest, which seems to be an important therapeutic measure, may quite possibly have some prophylactic value.

The committee is unable to express any great confidence in the efficacy of the measures above outlined. Even granting that the disease is transmitted directly from person to person by infectious secretions, the difficulties in the way of its prevention are great.

It is often impossible to recognize even severe paralytic cases before the onset of paralysis, which may be several days after the onset of the disease. It is still more often impossible to recognize and isolate abortive cases, whose number may reasonably be supposed to be considerable. Chronic convalescent carriers, whose existence is probable, and healthy carriers, whose existence is not improbable, are not recognizable and hence cannot be controlled.

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[1] In the opinion of one member of the committee (H. W. H.) a period of two weeks is sufficient to meet the situation as we understand it.

[2] In the opinion of one member of the committee (H. W. H.) terminal fumigation is unnecessary. In the present status of our knowledge concurrent disinfection, i. e., disinfection of the discharges of the nose and mouth, should be rigidly carried out.

Moreover, the disease is already wide-spread throughout the country, and experience with other infectious diseases has shown the difficulties which beset the eradication of a wide-spread endemic infectious disease by quarantine alone. Finally, it will be difficult to estimate the efficacy of preventive measures, since it is impossible to foretell the extent to which the disease is likely to spread in any community without the application of restrictive measures.

If, however, the above measures actually prevent even a small proportion of cases they are justified.

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REPORT OF COMMITTEE ON CONTROL OF CONTAGION THROUGH PHYSICIANS AND NURSES*

The subject, "Control of Contagion Through Doctors and Nurses," might imply that these are the only agencies for combating contagious disease, which is not quite true, though health boards must primarily depend on these agencies for preventive work. Through their efforts and teaching many other agencies, such as clubs, church organizations, social centers, fraternal bodies, principals and teachers in schools, and parents, are made to cooperate in preventing the spread of contagion. Doctors and nurses, however, are the only agencies employed legally and under control of municipal authority.

To control contagion we must first know where contagion exists. It follows that there must be authority to compel physicians, parents and guardians to report to boards of health, all cases of contagious disease when found. This should include suspected cases of contagious diseases—these to be dealt with differently from actual cases as explained further on.

City ordinances should be comprehensive and yet explicit enough to make their enforcement easy. Loosely drawn ordinances invite legal resistance. In the absence of city ordinances, state health laws can be invoked. In the absence of ordinances or state health laws we can proceed under the general police power. Under police powers a board of health can take such measures as are necessary to protect the public health against epidemic diseases and such action will be sustained by public opinion and the courts.

In order to secure reports of contagious diseases, postal cards, on which is indicated the information desired by the department of health, should be furnished free to physicians (Form 1). The acute contagious diseases—small-pox, diphtheria, scarlet fever, measles and whooping-cough—should be reported by telephone and by postal card. Telephoning the report makes it possible to take action twenty-four hours earlier than if the case were reported by mail. The postal card, with the physician's signature, following the telephone report, is necessary for the record of the case.

Other reportable diseases may be reported by card only.

When a case of contagious disease is reported, an acknowledgment of receipt of the report should be sent to the person making the report, on one half of a double postal card (Form 2), the other half of the postal card to be torn off and returned to the department of health when the case is ready for termination.

The name and address of the reported patient are telephoned to the medical health officer in whose territory the case is found. He visits the patient and establishes quarantine. If no adequate quarantine can be established and maintained, the patient should be sent to a hospital for contagious diseases.

In cases of diphtheria, if the attending physician has not taken a culture from the throat, the health officer should take one. If the case proves to be bacteriologically and clinically not diphtheria, the attending physician receives notice from the department of health of the laboratory findings (Form 3), and a postal card enclosed on which he expresses his wish as to the early termination of the case (Postal Card Form 4). The health officer gives immunizing doses of antitoxin to other members of the family if the attending physician has not done so; gives oral instructions to the family and printed instructions as to the management of the case (Circular 1) to prevent the spread of contagion. A printed card of instructions is hung on the door of the patient's room (Circular Card Form 2). The medical health officer endeavors to place the patient in a room apart from other members of the household with a view of preventing other inmates of the house from contracting the disease. A warning card (Placard Form 1) should be placed on the front door, and a milkman's warning card on which are printed instructions to be followed by the milkman (Placard Form 2) is placed on the rear door. The medical health officer fills out a blank quarantine card (Form 5), giving information and instructions as to the quarantine requirements to the quarantine officer who follows him. This card is placed under the right upper corner of the front door warning card and a tack is driven through both. The medical health officer fills out and mails a postal card (Form 8), notifying school principal, Sunday-school superintendent and factories in the neighborhood, giving the location of the case. He then fills out his report blank (Form 9), giving detailed information as to the conditions and requirements of quarantine in the case and mails it to the department of health.

The following day a quarantine officer calls and secures the instruction card which was placed under the front door warning card by the medical health officer. This card informs him what the quarantine requirements are in the case. This officer visits the house daily, or as often as necessary, to see that the inmates are obeying the rules of quarantine. At each visit he fills out and sends to the department of health a report (Form 10). When the patient is well, the attending physician sends to the department his termination card (Postal Card Form 2). The medical health officer is then sent to take cultures from the throat and nose of the patient, and if found positive he waits three days and returns for another culture, and so continues until a culture shows negative, in which case he returns the following day and takes another culture and at the same time takes cultures from the throats of all contacts. If they all prove negative, he fills out blank (Form 11), stating that the premises are ready for disinfection, and mails it to the department. A disinfector is then sent who disinfects and removes the warning placard. The disinfector, after disinfecting the premises, fills out and mails postal card (Form 12) to school, Sunday-school and factories which were previously notified of the case, stating that restrictions placed on the family have been removed.

If a positive culture is found in a diphtheria contact, the quarantine is continued until a negative is obtained. One negative culture is required from contacts and two negative cultures made on two consecutive days are required from the patient.

Scarlet fever is quarantined in the same manner as diphtheria, except that no cultures are taken unless mixed infection is suspected. Quarantine is more prolonged in scarlet fever than in diphtheria. Four to six weeks, and in some cases longer, should be the quarantine period in scarlet fever. The instruction card (Form 13) and circular of information for scarlet fever are similar to that for diphtheria, only differing in some details to meet the requirements of this disease.

Measles cases are placarded and children in the house are kept from school and from visiting other children. No visitors are allowed in the house. The adults, if they have had measles, are allowed to go about their necessary work but are not allowed to go to church or other public gatherings. The period of quarantine should be three weeks or more. A circular of information on measles is given the family (Circular Form 4).

A warning card is posted for whooping-cough. The same rules of quarantine apply in cases of whooping-cough as in measles except the period of quarantine is eight weeks, or until the spasmodic stage has passed.

All cases of chicken-pox should be visited by a diagnostician unless the doctor reporting the case says that the subject has a successful vaccination. No warning card is posted for chicken-pox, but the patient is kept in for two weeks.

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* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

Mumps is important only because it may get started and break up a school. Patients and those exposed should be excluded from school for three weeks. No warning card is posted.

When typhoid fever is reported to the department of health, a medical health officer visits the home from which the case is reported to learn, if possible, the source of the infection, and to instruct the attendants how to destroy typhoid contagion and prevent communicating the disease to others. He inquires into the water, milk and other food-supplies and learns if the patient has been away from home just preceding the attack, and other information required to fill out the report. He fills out report blank 14 and mails it to the department of health. A milkman's warning card (Placard Form 2), previously mentioned, is placed on the rear door and a circular of information on typhoid is given to the family and verbally explained (Circular Form 5). If screening against flies and proper treatment of discharges from patient are not practiced, the patient is ordered to a hospital. At the termination of the case, disinfection with chlorid of lime and formaldehyd is performed when conditions are such as to require it.

In the event of the milk-supply being suspected, a dairy inspector is sent to the farms in the country from which the milkman receives his supply, to look for possible sources of infection. If the source is located on any farm, shipment of milk from that place to the city is prohibited.

When a suspected case of contagious disease is reported, no warning card is posted until a diagnosis is made. The physician reporting has the family take all precautions and makes a second report as soon as the diagnosis is made.

The work in the schools done by the physician and nurse is conducted as follows:

At the beginning of the school term, the school doctor and nurse visit the school and make a rapid inspection to determine if any are seeking admission who show evidence of a contagious disease. This preliminary inspection is conducted in the following manner:

The doctor and nurse visit each schoolroom, stand with their backs to the window and have the pupils file past, exposing to view palms of hands and wrists. With the finger, the pupil pulls down the eyelid, exposing the conjunctiva, opens the mouth and puts out the tongue. Skin diseases, eye diseases and convalescent cases of scarlet fever can in this manner be detected. This preliminary examination is completed in a day or two and the school term is under way with the pupils found to have contagion about them excluded. They are excluded if on inquiry they are found to be coming from a house where a contagious disease exists. From that time on the school physician and nurse visit the school daily. The nurse makes routine daily inspections for evidence of contagious and parasitic diseases and refers all suspicious cases to the school physician for examination.

All pupils absent from school for three or more consecutive days and all suspicious cases found by principal, teachers and nurse are sent to a room to await examination by the school physician before they are allowed to go to their class-rooms.

If a case of diphtheria is found in school or if such case was in a class room and is found to have diphtheria the school physician takes cultures from the throats of all pupils in the class of which the sick pupil was a member. If a positive culture is found in any pupil, he is sent home and quarantined as a carrier of diphtheria germs, though there may be no evidence of sickness. A special quarantine placard is used (Placard Form 3) and a circular of information (Circular Form 3) is handed the family.

In Chicago, nine carriers of diphtheria were found in one class room, eleven in another, thirteen in a third, and the highest number found and quarantined was twenty-three in a class of twenty-seven.

In every instance in which an outbreak of diphtheria was found among the school pupils this practice of quarantining the carriers promptly and completely eliminated diphtheria from the school. There was very little opposition to this quarantine. We encountered the most opposition from physicians. With the department circular in their hands the parents of the child generally complied with the requirements of quarantine with little complaint. Complaints against the quarantine were usually the result of the information furnished by the physician called in by the parents. Physicians quite frequently protested against quarantining carriers. The opposition by physicians against this practice has continually grown less and now is quite infrequent.

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I. D. Rawlings, M.D.,
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Assistant Chief, Bureau of Contagious Diseases, Chicago.

REPORT OF COMMITTEE ON METHODS OF CONTROL OF SMALL-POX*

I. CONTROL OF SMALL-POX IN A CITY WITH A MILLION INHABITANTS

Heman Spalding, M.D.
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CHICAGO

The one agency, vaccination, is sufficient to absolutely prevent small-pox in cities large or small if this remedy is universally and intelligently applied. But there are always those in a community who oppose anything which was not created by themselves. I have never known an antivaccinationist who has had any experience with small-pox. One case in the family of an antivaccinationist has always cured him of his antivaccination views.

A small-pox hospital is a reflection on the intelligence of some of the citizens of a city. The burden of supporting such a hospital should fall on those who oppose vaccination. It is a needless expense and those who are careful to keep themselves immune from small-pox by vaccination should not be taxed to support hospitals for the care of a disease which is absolutely preventable by a universally known simple remedy.

The same methods for preventing small-pox in large cities are applicable to small cities, but large cities present difficulties not met with in small cities. The constant influx of cases from the surrounding country menaces the large city to a greater extent than the small city. The areas of congested population, the numerous centers of foreign-speaking population in large cities who mistrust our ways makes it more difficult to control disease among them than is the case where but few such people are found. In large cities there is more opportunity for concealing cases of small-pox. There is less respect for law and the rights of others in the large city. One of the greatest obstacles in a large city is the fact that the per capita tax for contagious diseases is lower than in smaller cities. A small town will spend one to five dollars per capita in a few months to suppress an epidemic of a contagious disease, while a large city like Chicago would never think of spending even fifty cents per capita to keep contagious diseases out of the city. By expending large sums of money, a small city can secure vaccination of nearly all and get small-pox under control in a few months, even after the disease has been introduced, but it takes a large sum of money to do it.

In a large city, if vaccination is neglected until small-pox is introduced at numerous points, the chances of preventing an epidemic becomes small. When an epidemic is well started in a large city full of susceptibles no effort that is likely to be put forth will eradicate the disease in less than two years. If everybody were vaccinated the disease would cease at once. This seems a simple matter, but in a city of two million, if we were to set one million the task of vaccinating the other million, the task would not be completed in a year. To vaccinate and keep vaccinated a large population requires persistent and aggressive work all the time.

The decisions of the courts that say vaccination can be enforced only in the presence of an epidemic, is not based on the true nature of epidemics of small-pox in relation to vaccination. The requirements are that a community must be made and kept immune if epidemics of small-pox are to be avoided. It is too late to prevent disaster if we wait until small-pox is present. The community must be kept immune from this disease and there is no way to bring about this result except by compulsory vaccination. To wait until small-pox is present before enforcing vaccination is as foolish as it would be to wait until a building is on fire before enforcing the building ordinance which requires fire-proofing. In the meantime, when small-pox comes every case must be hospitalized and wholesale vaccinations begun.

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* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

The following directions to medical health officers in a large city have proved successful:

When notified of a suspected case of small-pox, the medical health officer goes to the case forthwith. An hour's delay may result in many needless exposures.

The following suggestions as to conduct in the presence of small-pox are observed so far as the circumstances of the case will permit with safety, the health officer being required to supply any deficiency in instructions which the individual case may demand for public safety:

When entering a house in which there is a suspected case of contagious or infectious disease, do not remove your hat or overcoat; keep the overcoat buttoned.

Do not shake hands with any one in the house. Do not sit down or touch anything in the house, and especially avoid touching the patient or bed-clothing. To expose the patient for examination, call on the patient or some one present to remove the patient's clothing for you. When leaving the house, have some one open the door so as to avoid touching an infected doorknob.

Except to vaccinate the inmates of the house, it is not necessary to touch anything about the premises, excepting the floor, with the soles of your shoes.

If these precautions are observed there is no danger of carrying the disease to others.

When it is determined the case is one of small-pox, fill out the history blank provided for the purpose, telephone the information to the department and promptly mail the filled blank to the chief of the bureau of contagious diseases.

Telephone instructions as to the disposal of the case, whether an ambulance or a carriage is needed, the amount of disinfecting to be done and the number of vaccinators needed.

In filling out the blank, secure a list of all who have been exposed in any way to the contagion since the first day of the sickness; learn if letters or laundry have been sent out from the house; if so, where and to whom sent; give the vaccinal status of those exposed, so far as you can.

It is the duty of the medical health officer to vaccinate, or see that some other officer vaccinates, all who are known to be exposed to the infection. Do not leave or allow this duty to be done by the family physician. It is the duty of the health officer to secure the consent of the patient or family for the removal of the patient to the isolation hospital. Do not leave this duty to the ambulance driver.

Until the ambulance comes, the case must be made safe. If it is necessary to police the house to secure safety, do so. After securing the prompt vaccination of all exposed persons it is the health officer's duty to see the exposed every other day for fifteen or twenty days. If the first vaccination does not take, repeat until it does take.

If there be doubt as to the diagnosis, vaccinate the inmates of the house, make the case safe to others and see the patient later.

A medical health officer must be courteous and tactful in carrying out the department regulations in cases of small-pox. He should be complete master of the situation, able to dispose of complications and duties as they arise. He should secure compliance with the ordinance without force, if possible, but if necessary use police power.

After the patient is removed to the hospital, the premises are disinfected. All who have been exposed must be kept where they can be seen by a health officer every other day for twenty days. If the exposed keep in touch with the health officers as indicated above, they can go about their business. No quarantine is needed for those exposed until symptoms of the disease are noticed. After the twelfth day following exposure, they should remain in the house until it is certain they have escaped the disease.

When a case of small-pox is discovered it is our custom to vaccinate every one within two blocks of the infected house in each direction. If the case is found in a lodging house, the lodging-house population of the city must be vaccinated and kept under close watch. Nightly visits must be made to these houses to vaccinate new arrivals. Those who die of small-pox are buried by the department officials in any cemetery designated by the relatives.

II. CONTROL OF SMALL-POX IN RURAL DISTRICTS AND SMALL MUNICIPALITIES

H. M. BRACKEN, M.D.
Secretary and Executive Officer, Minnesota State Board of Health
ST. PAUL, MINN.

The control of small-pox in the rural districts and in the smaller municipalities is to be secured in the same way as in the larger municipalities, viz., through vaccination. Small-pox cannot be controlled without vaccination.

The public demands quarantine for this disease largely because it is a loathsome and disfiguring disease. We should not mislead the public by catering to their unjust demands. Public sentiment may be humored to a certain extent but those who are responsible for the control of this disease have no right to yield to the extent of misleading the people. The people should know that quarantine alone will never control this disease. Further, we have no right to throw a heavy expense on a municipality by quarantine of small-pox in an attempt to do that which we know cannot be accomplished. Isolation is necessary to a certain extent but to give the public a sense of satisfaction or confidence in attempting to control the disease by isolation alone is a mistake. There are always a sufficient number of unrecognized mild cases, or concealed cases to keep the disease going, if we were depending for its control on quarantine or isolation rather than vaccination.

It is a common opinion that the infection of small-pox is air-borne for a considerable distance. This is a mistake. Like most other infections, this infection may be carried by articles of clothing, etc., but if the infection is to be passed from individual to individual there must be quite close and somewhat prolonged exposure. It is also a common opinion that the disease is carried by a second or intermediate person to a third person. This is not true. Individuals living in a house with a small-pox patient but not ill with the disease themselves will not spread the infection to others unless they have been in such close and prolonged contact with the patient as to have had a certain amount of the infectious agent attached to their clothing. In fact, the spread of small-pox by a second to a third person may be treated as a negligible quantity in a well-vaccinated community. Public opinion is ready to demand great inconvenience for many individuals and great expense for the community, in order to prevent the spread of small-pox, when, as a matter of fact, the disease may be controlled by the personal expense of vaccination only, or even no expense, for vaccination should be free to all those who wish to take advantage of the public vaccinators.

It is absurd for those of us who are entrusted with the education of the people in matters pertaining to preventable diseases to advise or even condone the use of illogical or unscientific methods in their control. Quarantine is a relic of barbarism. It accomplishes nothing unless carried out in a most inhuman way and at great expense. One has but to recall the old shotgun methods used in attempts to prevent the spread of yellow fever before other means of controlling this disease were known, to realize the difference between quarantine and scientific control of disease. With our knowledge of vaccination, there is no more reason for trying to limit the spread of small-pox by quarantine than there is for continuing the shotgun method of controlling yellow fever now that we know the disease can be controlled by simpler methods.

I presume there are few, if any, present who do not believe in the preventive influence of vaccination against small-pox. Why then is vaccination not universal? Simply because ignorant or misinformed individuals have sufficient influence with many state legislators to prevent the passage of compulsory vaccination laws or to secure their repeal when they already exist.

The leaders in the antivaccination movement have much to say about sore arms as the result of vaccination. We must admit that there are some sore arms following vaccination, but these are the result of infection, not of vaccination, and this infection, instead of furnishing argument against compulsory vaccination should be one of the strongest arguments in favor of it. Why? Because the more perfect the vaccination the less the liability of infection. Infection is due to the following: (1) impure vaccine; (2) faulty technic on the part of the vaccinator; (3) imperfect care of the vaccinated arm or leg after vaccination. With proper compulsory vaccination laws, all of these possibilities would be reduced to a minimum.

We often vaccinate in emergency—that is, when there is a small-pox scare—or we vaccinate just before the opening of school in the fall, the very worst time of the year. A great part of our vaccination is done, therefore, under the most undesirable conditions. If we had compulsory vaccination laws, any state could determine very closely the amount of vaccine that its public vaccinators would need each year, for this would be governed by the number of births, and the production of vaccine would then be carried on under the most favorable conditions. When vaccine producers do not know how much of their product will be needed they may be short in their supply when the heavy demand is made on them in emergencies, and then be compelled to produce vaccine for rush orders or in hot weather. If we had compulsory vaccination, the children would be vaccinated at the most advantageous period of life, viz., the cradle age, instead of during the school age. In the countries having compulsory vaccination laws there is no active vaccination carried on during the two or three hottest months of the year. In our country, where we try to secure vaccination through the vaccination of school children, we do the greater part of the work in September, one of the most undesirable months of the year so far as the vaccine is concerned and one of the months which is most conducive to arm infection after vaccination because of the heat and dust. If we had compulsory vaccination laws, with well-trained vaccinators to take care of the poor, we would not run so great a risk as we do now of having sore arms.

Although the influence of demagogues and misguided individuals is often greater with legislators than is that of scientific leaders, the need of educating the people as to the control of small-pox by vaccination rather than by quarantine is imperative, and it seems to me the method adopted in Minnesota in 1908 is worthy of consideration. This consists in (1) placing a premium on vaccination by allowing the vaccinated privileges not granted to the unvaccinated; and (2) refusing to endorse the expenditure of considerable sums of money in an attempt to control the disease by rigid quarantine. It is well known that certain communities that have tried to control small-pox by quarantine have failed, and have been compelled to go back to the old system of vaccination as a means of protection. Vaccination is a small expense to the individual.

I wish to emphasize the fact which I have already stated, that quarantine is simply a relic of barbarism. There are only a few diseases that are now under quarantine regulations and most of these are diseases in which quarantine was chosen as the means of control before anything was known as to the cause of the disease. Fortunately, in most instances in which the cause of the disease has been discovered, scientific methods for its control have been adopted and rigid quarantine abandoned. Take yellow fever as an example. A few years ago an outbreak of yellow fever demoralized commerce and interfered with the carrying out of the general intercourse of the community, but when it was found that the infected mosquito was the only means of transmission the old system of quarantine was thrown down.

New diseases come up and we study them carefully. Take epidemic anterior poliomyelitis as an example. In the olden days undoubtedly the public would have demanded that health officials establish a rigid quarantine. At present the people ask the public health officials about the probable danger and are given advice. Instead of establishing a rigid quarantine, it is sufficient to point out the lines of probable infection and establish a system of isolation, similar to that used in Minnesota under the regulation that reads as follows:

> Every case of epidemic anterior poliomyelitis shall be reported to the local health officer at once. The patient shall be isolated for a period of two weeks from the onset of symptoms. All other children, teachers or others having to do with children residing in the affected household shall be kept under observation for a period of three weeks from the date of last exposure within the household; they shall not attend during this period day school, Sunday school or any public or private gathering whatever. Residence, boarding or lodging in a household during isolation therein of a patient suffering from anterior poliomyelitis shall constitute exposure. The discharges from the nose, throat and mouth of the patient must be received on cloths and burned at once. After death or termination of isolation all personal clothing and bedding of the patient, together with the contents of the room and the room itself, must be thoroughly disinfected under the personal supervision of the local health officer. In case of death a public funeral or viewing of the remains of the deceased is forbidden. Every doubtful case of anterior poliomyelitis shall be classed as of epidemic type and cared for accordingly until proved to be otherwise.

I think I have said enough to show that the control of small-pox is no different in the country districts and the smaller municipalties from what it is in the larger centers.

In January, 1908, the Minnesota State Board of Health put into effect the following regulations:

> The local health officer having knowledge of, or having reason to suspect the existence of small-pox, shall investigate and at once place on the house where small-pox exists a sign setting forth the facts. This sign is to serve only as a warning to those who may wish to avoid the house, and not as an indication of quarantine. When the attending physician considers a small-pox patient as having recovered he shall report the fact in writing to the local health officer, who shall thereupon remove the warning card from the house. The patient must not leave the house until after the removal of the warning card.
>
> The apartments occupied by a small-pox patient shall be deemed infected, and when vacated by death or removal of the patient shall, together with their contents, be thoroughly disinfected under the supervision of the local health officer.
>
> Every physician shall immediately report to the local health officer, in writing, the name of every small-pox patient under his care, the state of his or her disease, and his or her place of residence. A report must be made for each case as it occurs in a family or household.
>
> Every physician shall report, in writing, to the local health officer the death of any small-pox patient under his care within twelve hours thereafter.
>
> The local health officer of any city, village or township must report within twenty-four hours to the secretary of the Minnesota State Board of Health all cases of small-pox occurring within his jurisdiction, and the date of removal of the warning card.
>
> Following an exposure of small-pox, every individual who cannot show evidence of a recent successful vaccination or a recent attack of small-pox must be vaccinated (within three days of the first exposure) or placed under the same isolation restrictions as small-pox patients.
>
> If small-pox prevails in a community, or if the disease appears in a school, all unvaccinated teachers and pupils must be excluded from school for a period of three weeks unless vaccinated within three days of first exposure. Failing to comply with this requirement, the school must be closed for a period of three weeks.
>
> If small-pox appears in any class in any college in Minnesota, all unvaccinated teachers and students in the class must be excluded from recitations for a period of three weeks unless vaccinated within three days of the first exposure. Failing to comply with this requirement, the classes attended by such teachers or students must be discontinued for a period of three weeks.
>
> All persons having been ill with small-pox must have their clothing disinfected and take a disinfecting bath before being released from quarantine.

These have proved quite satisfactory. They call for the isolation of the patient without a quarantine on the premises. They place restrictions on the unvaccinated but grant privileges to the vaccinated; in other words, they penalize the unvaccinated and put a premium on vaccination. Through these regulations Minnesota, a state without compulsory vaccination laws—in fact, a state with antivaccination laws—has secured a fair degree of vaccination, for the people realize that they must protect themselves both from the disease and from the inconvenience of restraint in the event of exposure.

ABSTRACT OF DISCUSSION

ON REPORTS OF DRS. SPALDING AND BRACKEN

DR. E. STUVER, Fort Collins, Colo.: I am highly pleased that so distinguished an authority as Dr. Bracken takes the stand that he does on the question of quarantine. The world has been scourged with small-pox; between the years 1700 and 1800, one hundred millions of people died in Europe from small-pox; and Macaulay tells us that at one time scarcely a person could be found in London who was not marked or disfigured by that disease. Since Jenner discovered vaccination, no one who does not want small-pox need have it. What does quarantine do? It gives us a wall behind which the antivaccinationists can hide; they cry to the public, "Isolate cases of small-pox"; and they can shoot into the scientific world with the material that they collect from all sources and keep up a battle of that sort; whereas, if we turned our small-pox patients loose, we would soon see those people taking to the woods. They would get vaccinated. As shown by the epidemic in England, and especially when the thing came very close home, the antivaccinationists got vaccinated, and they didn't take small-pox.

Swallowing the virus does not work out in the presence of real danger. It will do when the small-pox is in some other county. The principal thing that we want to impress on our communities is the fact that vaccination does prevent small-pox. We had an epidemic in our small town last spring; our health officer made a report in April that at that time we had fifty-eight cases of small-pox: fifty-three patients had never been vaccinated at all, and the remaining five persons who contracted small-pox had not been vaccinated within fifteen years. No person in the community who had been properly or efficiently vaccinated took small-pox. People will come to the physician and try to argue the question of vaccination. I tell them: "I don't care whether you get vaccinated or not; it is a good deal more in my pocket if you don't get vaccinated. As far as myself and my own family, and people whom I have to look after, are concerned, I vaccinate them. You can use your own judgment. It is your great American privilege to be vaccinated or not; do as you please." They yield gracefully in nearly every case. If you argue the matter they will keep you tired for a week, and probably then not be vaccinated.

The question of sore arms, I believe, depends on the person one is dealing with. I have explained it something like this: Some are absolutely immune against the disease. Vaccination will not "take" on them under any circumstances. There is another class who are highly immune. They have mild sores; the manifestations are mild and they soon recover. There is the ordinary case, that runs an ordinary course; there are no severe symptoms and the person soon recovers. There is a fourth class, who have quite a strong susceptibility to the vaccine poison; and those persons get quite sore arms and become quite ill from vaccination. A large percentage of this latter class would die from small-pox. In the fifth class are persons who are exceedingly susceptible to the poison of small-pox, and when attacked they die. An explanation of that kind made to the public sometimes clears up the atmosphere and shows that the reason some people have very sore arms is because they are exceedingly susceptible to the small-pox virus, and if they took small-pox they would surely die from it.

Dr. J. N. Hurty, Indianapolis: I heartily agree with Dr. Bracken in every respect except one. He said that quarantine and isolation (I don't know the exact differentiation or distinction between the two) are barbarisms.

Dr. H. M. Bracken, St. Paul, Minn.: Quarantine only.

Dr. J. N. Hurty, Indianapolis: Quarantine only is a barbarism. Well, perhaps it is; but I would advocate very strict isolation of a certain class of diseases (with which you are all acquainted), if not quarantine; yet we permit their victims to run loose in this world uncontrolled in any way whatsoever. I refer to tuberculosis and the venereal diseases. We are inconsistent in the way in which we conduct our affairs, both public and private; and this is one of the most glaring inconsistencies that I know of—that we should permit persons infected with the most terrible leprous diseases to go about unchallenged in any particular whatsoever. They are more dangerous than small-pox victims, a thousand times more dangerous. Yet we are all aroused, ready to pay great sums of money for the quarantine and isolation of the small-pox person but not for the other. So I would advocate the retention of quarantine and isolation to some degree, because such methods are not barbarisms entirely. Then there is another point in regard to small-pox which Dr. Bracken did not mention. Shall we any longer class it as a dangerous disease? It is less dangerous in my state than measles. We have reported at this time about 300 cases of small-pox every month and not a single death. Inquiry was made into the reports for three months, and none of the cases was severe. Physicians everywhere were disputing whether it was small-pox or not. I think it was; but it was so mild that the element of danger did not enter into it.

Dr. H. M. Bracken, St. Paul, Minn.: A distinction should be made between quarantine and isolation. By quarantine we should mean rigid restraint of infected individuals and those associated with them. Isolation means only the separation of the patient with little or no restraint on the movements of other members of a family. I believe thoroughly in the isolation of many diseases, such as measles, epidemic anterior poliomyelitis, typhoid fever and small-pox; and I would be glad to see the day when certain other diseases now in the quarantinable group were put into the group of diseases for which isolation is recognized as sufficient. In Minnesota the death-rate from small-pox is less than 0.5 per cent. I do not remember the exact death-rate for measles and scarlet fever, but it is considerably higher than that for small-pox.

PUBLIC HEALTH EXHIBITS FOR PERMANENT INSTALLATION *

Frank B. Wynn, M.D.
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INDIANAPOLIS

Certainly no one will deny the assertion that man's greatest fund of information concerning the world about him is gained through the sense of sight. The objects seen are but so many exhibits. Furthermore, knowledge thus gained is more readily acquired and better retained than through the spoken word. It seems strange, therefore, that the exhibit method of instruction should not be more generally employed in the education of the young. How little is done in our public schools to develop a critical faculty of observation! Children are trained along abstract lines. They grow to maturity with eyes, which should be their greatest aids, and yet see not.

The earliest employment of the exhibit principle of instruction in educational work came through the museum. Art was first to profit largely by the application of the exhibit method. In recent times the commercial and educational world, through expositions and fairs, have made extensive use of the idea. These, however, have been transient in character and wanting in continuity of educational effect.

Health authorities have abundantly demonstrated that exhibits constitute the most effective means thus far used in educating the public on health problems. As ordinarily employed they are cumbersome, expensive in their initial cost and in their maintenance; they are shown only in the larger cities and towns, presented for a day or two, and not again for a long period. I would not be understood for a moment as decrying the usual methods now employed; they are most valuable and should be continued. My appeal is to supplement these efforts by permanently installed health exhibits, which will teach the lessons of hygiene and sanitary science day by day. The evangelical stage of health propaganda has been passed; let such agitation be followed by preaching and practicing a health religion in the daily life. Systematic and continuous instruction should constitute the second stage in the evolution of health methods; best accomplished through colleges, the high school and the public schools; and for the work-a-day citizen, permanently installed exhibits.

It is not the intention at this time to consider school methods of instruction on health matters, a phase of elementary education greatly neglected. It is only the exhibit aspect of the question that is now offered for consideration. The up-to-date teacher sees to decoration of the schoolroom walls with pictures of persons or things relating to the subjects taught. Frequently one may note the pictures of Shakespeare, Bryant or Emerson in illumination of literature; that of Washington, Jefferson and Lincoln in exemplification of war and statesmanship; but whoever saw the pictures of Jenner, Pasteur or Koch as great heroes and benefactors of mankind?

Until the curricula of our public schools include competent instructors on health matters, is there not something which health authorities may inaugurate which will leave a permanent impression on the child?

A compact sanitary exhibit, such as devised through the Scientific Exhibit of the Association, seems to me a step in the right direction. The exhibit shown at Los Angeles and previously described[1] contains thirty metallic leaves, easily removable, on which are mounted sixty pages of pictures, charts and

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* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Wynn, Frank B.: Public Health Exhibits Under the Supervision of the American Medical Association, The Journal A. M. A., Jan. 28, 1911, p. 294.

data. In this particular exhibit the subject of tuberculosis only is treated. Let such exhibits be placed in school buildings. Groups of these leaves might be removed at pleasure by health authorities and others substituted on a health topic of interest in the community. At one time a campaign might be waged on food adulteration; at another, on the evils of self-medication, "patent medicines," etc.; or the local situation might call for agitation on the subject of typhoid prevention. There are endless ways in which a public health bulletin of this character could be used by efficient health officers for systematic instruction on health subjects.

Other places in which the same type of exhibits might be installed permanently are notably, court-houses, city halls, railway stations and other public places where people congregate and find the opportunity to look and read. They would be especially adapted to villages and towns where large migratory health exhibits do not go.

The American Medical Association could engage at this time in no work of greater practical value to the public health than in the standardization of data and material for small exhibits of this character, making the product so cheap that it would be available for remote rural as well as urban districts.

ABSTRACT OF DISCUSSION

Dr. A. J. Reed, Battle Creek, Mich.: I was very much interested in this ingenious device that Dr. Wynn has presented, because it seems to me that it is really very practical. It is true that people waiting in railroad stations have time to kill; and, unfortunately, their idleness and ignorance endanger the health and lives of human beings. They are killing their neighbors for want of knowledge. The laity are wonderfully ignorant about the simplest principles of health. The suggestion of following up timely health subjects, such as typhoid, epidemics of small-pox and general health instruction in this manner, I believe will be very helpful and I hope that it will be remembered by those in attendance and put into practice. I believe that there is a moral obligation resting on the profession to educate the people on the prevention of disease and the preservation of health. We should not leave this opportunity to be used by quacks and fakers. I don't know how some of us can do any better missionary work than by investing a few cents in similar attractive, modern devices for our own towns and counties and installing these silent messengers which are constantly at work, enlightening the people. The inroads which preventable diseases are making in spite of our best efforts, demand that we do more in the future than we have in the past for the physical salvation of our communities.

Dr. E. Stuver, Ft. Collins, Colo.: I would like to inquire of Dr. Wynn where those leaves can be procured and at what cost.

Dr. S. A. Knopf, New York: I think this is a most excellent and admirable scheme. It is particularly good to have a leaflet containing the antispitting ordinances; but in my experience it is utterly useless to say: "Don't spit." People will spit. Now, I believe it would be a good idea if, instead of our negative command, we would make a positive one, and say: "Spit here!" and with it provide a proper receptacle. I don't mean to say that all people spit; but some have colds and some use tobacco, etc. It is just as injurious to swallow the expectoration as to put it where it can infect others. There should be no railway station nor railway car without a proper and sensibly constructed spittoon. Those now in use in most Pullman cars are only fancy articles. They are so planned that the sputum in them always dries; and I pity the poor porter who has to clean them. For railway stations, public places and health resorts I believe in the automatic self-cleansing spittoons. We ought to have them everywhere in sufficient numbers, since we now know that tuberculous sputum is the main cause of infection from man to man. Spitting on the sidewalk should be prohibited; but on the other hand, I don't believe we should say don't spit at all. We should say don't spit on the sidewalk, don't spit where people walk. We might then induce people on the street, where there are no proper receptacles, to spit in the gutter. This would be an improvement on existing conditions.

Dr. Frank B. Wynn, Indianapolis: This exhibit and three other models have been developed as part of the Scientific Exhibit. Prizes were offered two years ago with the view of developing compact and durable exhibits. These have been the outcome and have the endorsement of the Council on Public Health. There are three models. This one relating to tuberculosis sold at $15.00. There is a size a little larger that costs $20.00; and there is a wall kind that folds and lets down, containing the same data, and also large placards, which sells also for $15.00. Considerable reduction in prices over those given may be secured if the exhibits are purchased in quantities. These can be bought through the Council on Health and Public Instruction of the American Medical Association, at the Chicago office, or of Clark & Roberts of Indianapolis, who have been the manufacturers thus far.

THE PSYCHOLOGIC ASPECT OF REFRACTION *

S. L. LEDBETTER, M.D.

BIRMINGHAM, ALA.

While refraction is a science based on mathematical principles and theoretically very exact, yet there are other questions involved besides that of measuring the radius of curvature, finding the far and near points, range of accommodation, etc.

What I shall have to say in this short paper will not be new to many, but it is a phase of refraction about which very little has been said or written. Hence my excuse for presenting this paper.

Has psychology any practical bearing on the subject of refraction? In many cases perhaps very little, while in other cases quite a good deal. If all brains were of the same quality, all minds trained to think alike, all nervous systems equally well balanced, every individual reared in a pure atmosphere with proper and healthful environments, refraction would in a measure be reduced to the simple question of accurate observation and correct measurements. It would be largely mechanical. But as such conditions do not and cannot exist, we are bound to recognize the right of psychology to a place in refraction. We must in every case consider the individual with all his idiosyncrasies and eccentricities. Refraction to the beginner is a fascinating subject. It appeals to him because of its exactness. It presents problems which he can work out for himself, and he can prove the correctness of his conclusions. He is therefore liable to underestimate the gravity of the subject, and to overlook one of the most vital features of it; that is, the individuality of the patient, as well as that of the examiner. I shall not attempt to go into the philosophy of mental suggestion or to discuss the various theories of psychic phenomena, because it is not necessary or expedient to do so, and the field is too broad.

We are compelled to admit that there is a psychologic phase to every situation in which two minds are brought in close relationship; where the personality of the one appeals to that of the other, and where a motive exists for the obtaining of a sympathetic relationship between the two. To have a strong personality, or to be possessed of what is usually termed personal magnetism, is a very necessary element of success in any calling in life, and it is worth as much to the refractionist as to any other. In fact, the refractionist who does not possess a reasonable amount of the faculty is handicapped.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

The fitting of glasses to presbyopes, in a large percentage of cases, does not call for any great skill or an extensive knowledge of scientific refraction, but does require a reasonable amount of common sense and a good knowledge of human nature. These patients are not hard to please, as a rule, and are satisfied with vision which enables them to read ordinary print without much effort. This assertion applies, of course, to the rank and file of those who have accepted the portion of senility, who have worn off the wire edge of enjoyment and have resigned themselves to the simple life. I have seen patients with decided astigmatism plodding along contentedly with a very indifferent pair of spherical lenses, in frames set all askew. A person of this class of humanity is easily imposed on by the unscrupulous spectacle-vender, and can usually fit himself if you will furnish him with a few pairs of glasses from which to select. There are others, however, who have very decided ideas of the dangers which may come from the wearing of glasses incorrectly fitted and who would be very unhappy if they had been fitted by one in whom they had not the utmost confidence. And still, they may not be unreasonable in their requirements and need only to be assured that they have had a proper refraction and that their glasses are correct.

There are others, however, who are skeptical and disposed to find fault. They are never quite sure of anything; are afraid to admit that they see any better with one lens than another, lest they make a mistake and mislead the refractionist. They will hesitate as to the relative clearness of two lenses, trying first one, then another; then they will go back to the first again, and so seesaw back and forth until the refractionist has exhausted his stock of patience and nervous energy, and the patient is in such a state of uncertainty that he cannot render any intelligent assistance. Perhaps the most sensible thing to do in this case would be the postponement of the work to another day. This gives the refractionist time to take the measure of this patient and plan his campaign, when, perhaps, by bringing to bear a large amount of his own personality the patient may be made to accept a correction. A patient of this class is likely to give the physician more or less trouble later. for having a doubting disposition he will do some testing on his own account and return from time to time with his grievances. Whether the grievance be real or otherwise does not much matter, for he thinks it is a real one and the case must be given some attention. If the refractionist feels sure that he has given a proper correction, then it becomes a question of dealing with the mental attitude of the patient. Confidence must be established and ghosts of imaginary evil and preconceived ideas of dire calamity must be dissipated. With this class of patients there is a fertile field for the exercise of a strong personality and psychologic influence.

Much more might be said along this line, but I wish to discuss briefly another phase of humanity, one of the most troublesome types with which we have to deal; i. e., the man (or woman) who thinks that glasses would in some way or other be an advantage to him. He has diagnosed his own case by introspection or reading quack advertisements, or else he thinks that glasses will lend a certain appearance of respectability or intellectuality, and insists on having them. The individual of this particular type is usually ignorant and could get on just as well without glasses as with them, even if he should happen to have a small amount of ametropia, but he wants them and will very frequently deceive the examiner—unintentionally, perhaps. His anxiety to obtain the glasses will lead him to say that he sees better when he really does not, and nearly any lens placed before him is good. His replies cannot be depended on at all as to how well he sees. The only sure test is to make him call the letters, if he knows them. Sometimes, however, he will say that a certain lens is an improvement, not from any intent to deceive, but because he is led on by mental suggestion to say that he sees better or worse. He is impressed with the idea that he is expected to see better, and answers the question accordingly, but when called on to read the letters he stumbles as badly or even worse than before.

While I do not approve of suggestive therapeutics or hypnotism as practiced by the ill-advised or the charlatan, I do recognize that much can be done with individuals of this type by mental suggestion. They have very plastic, impressionable minds. They are credulous and more or less superstitious and easily imposed on, and are the legitimate prey of the unscrupulous. Still this same unexplainable something which we call personality, this power to impress and inspire confidence, is a very potent one, and the refractionist who is lacking in it will experience great difficulty in leading the patients along lines of least resistance to correct conclusions. It is also necessary to be a good judge of human nature, to be able to interpret mental attitudes of a patient, to recognize elements of hysteria and detect symptoms of remote reflexes and neuroses, to be able to say to your patient that, with the restoration to a normal condition mentally and physically, all eye symptoms will pass away. More than this, it is necessary to carry conviction to the mind of the patient and furnish a substitute for all his preconceived ideas. Sometimes it seems advisable to compromise with him and give glasses when one is convinced that there is no real need for them. Some of these patients come to recognize in time that they get on just as well without their glasses, and lay them aside, while others continue to wear even plain glasses with a great deal of confidence and will stoutly maintain that their eyes soon grow tired and give trouble when the glasses have been left off.

So the glasses have served a good purpose and the end has justified the means in a measure. With the conscientious physician the bringing to bear of all of these faculties and forces, if the interest of his patient be subserved, is a perfectly justifiable procedure; it is honorable and legitimate. But with a refractionist who is looking only to the monetary side of the question, or with the quack spectacle-vender, whose mission is to sell glasses regardless of the requirements of the case, the exercise of this faculty becomes a means of perpetrating fraud, and cannot be too severely condemned.

ABSTRACT OF DISCUSSION

Dr. G. C. Savage, Nashville: Psychology has a great deal to do with refraction. How to make the psychologic impression is the question we should ask ourselves and we want to be able to answer it. In the first place we will need no psychology if the patient has only one eye and there is no inflammatory trouble in that eye. To make a proper psychologic impression on the patient a thorough examination should be made, not only as to the refractive error, but also as to the condition of the ocular muscles. A patient with hyperphoria even of half a degree is going to complain if this is not corrected. If he is told that he has it and that you are going to correct it the effect follows, not only from the psychologic impression, but also from the prismatic power of the lens. Many times I have gone over the refraction of patients who had been to my confrères and found absolutely no necessity for a change of lenses except as to prismatic correction of a hyperphoria of low degree. If in giving a prism it is placed before the hyperphoric eye there is always relief. If there is exophoria in the near and your patient has a hyperopia and you attempt to give full correction without paying attention to the exophoria in the near, then you are going to get into trouble, psychologic effort or not. If there is esophoria in the near with hyperopia and you fail to give full correction then you are going to have trouble and no suggestive effort will avail. If an astigmatic patient needs plus cylinders with axes diverging, these will make a rectangle look broader at the bottom and he will feel that he is walking up hill for a few days. But the patient can be told this beforehand and the mental impress does good. He or she can be assured that this annoyance will vanish shortly and no complaints will follow. But plus cylinders having their axes converge above will make the patient walk down hill (the rectangle will be broader at the top) and that condition will last four to ten times longer than the other trouble. If you tell the patient this beforehand you make a psychologic impression and he patiently becomes accustomed to his glasses. Another fact which should be told the patient that makes a good psychologic impression is that a straight line should always pass through the four joints of the spectacle frame, and that his lenses must be level before his eyes.

Dr. C. D. Wescott, Chicago: Just one word with regard to the treatment of our presbyopic patients. It seems to me that the decade in which we should be most careful is between 45 and 55. It is certainly the time of life when I use cycloplegia with the greatest care and in which I make the greatest effort to correct low grades of astigmatism. I have one patient, a physician 66 years of age, who will not accept a cylinder unless the eye is under the influence of a cycloplegic. Under homatropin and cocain he accepts half a diopter cylinder and is more comfortable both in reading and for distance. It has been my practice for years to use atropin, in the absence of any contra-indication, in all patients under 40, who are not comfortable in glasses prescribed under homatropin, and in patients over that age I use homatropin and cocain, 2 per cent. each, a half dozen drops in each eye at intervals of five minutes, waiting an hour and fifteen minutes before making the tests. I use it up to 70. Frequently I do not use the full dosage, but I use it in practically all patients in whom there is no contra-indication.

Mark D. Stevenson, Akron, O.: I think one of the most important things, aside from the refraction, is to outline to the patient the difficulties in becoming accustomed to the lenses and their proper use. Years ago I had a large envelope printed stating the reasons why patients would not at first be satisfied with their lenses, although proper. An assistant also very thoroughly explains, with suggestions from me, why at first they will have difficulty. I feel that this is of very great importance from the psychologic standpoint. In addition to this a thorough explanation is made of how to wear the lenses. If this is not explained to patients their control will be more difficult. I think if we can foresee probable difficulties and explain that these often occur in a patient correctly fitted, and must be expected, that it is of the very greatest importance from a psychologic standpoint. I think one of the chief reasons for using atropin instead of homatropin under 45 or 50 years of age is that it assists the patient in quickly becoming accustomed to his lenses and is not merely used to find the static refraction. It also gives the patient's eyes a rest.

Dr. Edgar S. Thomson, New York: I think it is very important indeed to prepare the patients for just what they are going to experience. In the first place the action of the eyes is a matter of the coordination of a number of different muscles, and delicate acts of coordination must always be subconscious in order to be perfectly easy. There is a very decided analogy, to my mind, in becoming accustomed to new conditions in coordination of the eyes, to learning a new passage on a musical instrument, say the piano. It must be carefully drilled into the memory first of all and then it must be played without thinking of the individual action of the fingers; in other words, the coordination must be in the subconscious mind. Now, if patients get a lot of unexpected symptoms that disturb them when they first put on the glasses they immediately begin to try to pull around them, and try to adjust themselves to them, which is just what they should not do. Therefore it is important in any change of refractive conditions to have them prepared so that they will drift with the tide instead of fighting it.

Dr. W. E. Lambert, New York: All this is a tempest in a teapot. Most of the people we have to deal with cannot understand these details. We presume of course that any man who attempts to fit glasses knows his business and makes a thorough examination, but the subjective tests may show up somewhat differently, and he has to use his common sense in dealing with the different patients. This applies to fitting glasses, giving medicine or anything else, and to my mind that is what Dr. Ledbetter tried to bring out in assuming scientific knowledge. He says it is a fascinating subject. I have not found it so. Refraction is a tiresome and tedious thing. It reminds me that we must at times be all things to all men. It is quite legitimate to dissemble if we do it for the benefit of the patient. A woman had a pain in the back of her head. I said, "That is a matter for your family physician and I should like to consult with him about your case." She said, "I have none; I am a mental scientist." I said, "By an extraordinary coincidence so am I. I thoroughly believe in bread pills when they are indicated, but I also believe in calomel when it is indicated. Now your condition is not for mental science or for bread pills." We must deal with these people according to their mental caliber.

INTRA-UTERINE OPHTHALMIA NEONATORUM

W. A. NEWMAN DORLAND, A.M., M.D.
CHICAGO

The development of gonorrheal ophthalmia in a fetus *in utero* is so extremely rare that it becomes almost obligatory to place such a case on record. The textbooks in almost every instance fail to mention the condition, even as a possibility. A communication, recently received from Dr. F. Park Lewis, Chairman of the American Medical Association's Committee on Prevention of Blindness, states that, while it is a very unusual occurrence, intra-uterine ophthalmia has been recognized for some time. The condition was first noted by Quellmalz in 1750. Demours,[1] Guthrie,[2] Hilsenburg and Hasse[3] were among the earliest to report cases. They were followed by others, and more recently, by Queirel,[4] in 1902, and finally by Sydney Stephenson[5] in 1907, who tabulated 90 cases collected from literature and encountered in his own experience. In all literature to date about 100 cases have been recorded. Some interesting facts are to be noted, as follows: Not only the gonococcus, but the pneumococcus, colon bacillus and other germs may be the causative agent; the gonococcus, however, is by far the most common cause. In only a little over one-third of the cases was premature rupture of the membranes noted. In the other two-thirds (63 per cent.) the membranes ruptured at some time within twenty-four hours of the birth of the child, too late to permit of antenatal development taking place. A few cases of fully developed ophthalmia have been recorded of children born in a caul. Other cases are reported in which the ophthalmia had apparently run its course *in utero,* leaving damaged corneas or atrophic eye-balls. Beyond controversy the increased temperature of the conjunctival

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1. Demours: Traité des maladies des yeux, ii, 146.
2. Guthrie: Lond. Med. and Phys. Jour., January, 1829, p. 5.
3. Hasse: Neue Ztschr. f. Geb., 1838, vii, 439.
4. Queirel: Leçons de Clinique Obstétricale.
5. Stephenson, S.: Ophthalmia Neonatorum.

sac *in utero* enhances the virulence of the causative microorganism, and this, together with a lack of resisting power on the part of the infant, results in the extremely acute course of these cases. Placental transmission has been suggested as a method of infection *in utero*, but Stephenson believes that most of the cases are to be explained by the theory of a local intra-uterine infection—penetration of the intact membranes by the germs. Infection in the case I am about to report undoubtedly took place because of a premature rupture of the membranes.

Mrs. X, aged 24, the wife of a medical student, was admitted to Jefferson Park Hospital on the morning of Jan. 13, 1911, well advanced in the first stage of labor. The bag of waters had ruptured spontaneously seven days before, while the patient was engaged in her usual household affairs, but there had been no labor pains until the midnight before her admission to the hospital. Labor was easy and uneventful, without complication, other than a trivial fourchet tear. When the nurse attempted to instil the silver solution in the baby's eyes they were found to be the seat of an advanced gonorrheal ophthalmia. A greenish pus was exuding in large quantities from each eye, and the conjunctivæ were deeply injected, presenting a vivid red appearance. So virulent was the case, that, in order to prevent the remotest possibility of infection of the other babies in the hospital, the child and mother were immediately removed to the Illinois Charitable Eye and Ear Infirmary, where prompt and energetic treatment of the eyes was instituted. Notwithstanding the excellent care the baby received at this institution, one eye became perforated the following day and was destroyed, and the other showed almost complete corneal opacity from ulceration. The mother passed through a normal apyretic convalescence.

The points of interest in this case are the early rupture of the bag of waters, one week prior to the onset of the labor pains; the apyretic course of the mother's case in the presence of a virulent vaginal infection; and the infection of the child's eyes during the week subsequent to the rupture of the membrane while the fetus was still *in utero*. It is interesting to conjecture how the gonococci gained entrance to the uterine cavity, since the mother denied all vaginal douching prior to the delivery of the child. The freedom of the mother from gonorrheal puerperal fever was due to the fact that the infection had occurred within the amniotic sac and had been thereby limited to that cavity without penetration to the decidual tissue.

1422 West Jackson Boulevard.

THROMBOSIS OF THE MESENTERY CAUSING GANGRENE OF THE ILEUM

R. W. WAKEFIELD, M.D.
BAR HARBOR, ME.

I report the following case for two reasons; first, because thrombosis of the mesentery is rarely seen and never diagnosed except at operation or post mortem; and second, because this patient made an uninterrupted recovery from this surgical affection which is usually attended by a very high mortality.

History.—W. T. H., a white man, married, aged 60, was a merchant. Family and personal history were negative. For the past twenty-five years he had suffered occasionally from so-called "bilious attacks," in which he would be taken suddenly with nausea, vomiting and epigastric pain after some indiscretion in diet. Attacks would last from a few hours to two or three days, after which time the patient would feel perfectly well again; was never jaundiced. Two and one-half years ago he suffered from bronchopneumonia but made a good recovery. Since convalescing from pneumonia he has enjoyed good health until present illness. Two weeks before illness came on he took a long horseback ride but felt no inconvenience from the exertion, except general muscular stiffness which soon disappeared. On the morning of July 8, 1911, the patient was in his usual health until 10 a. m. when, while riding in his carriage, he was suddenly taken with severe abdominal cramps, nausea, vertigo and faintness. In a few moments vomiting began.

Examination.—His family physician, Dr. George Neal, found patient prostrated, vomiting frequently, mostly mucus and water; complained of severe pain in epigastrium, chilliness and frequent desire to go to stool. Pain was paroxysmal but not colicky; patient complained that pain would rise in throat, choke him and make him feel faint. Countenance was cyanotic, pulse 90, feeble and intermittent. Palpation over abdomen showed no particular point of tenderness, but whole abdomen was distended and greatest pain seemed to be in epigastrium.

Course.—A high enema was given with small result. Patient's bowels had moved normally at 7 a. m. Distress was so great that ¼ grain of morphin was given. At 5 p. m., pain had ceased and patient felt comfortable, with pulse 90, regular. At 9 p. m., distress and vomiting returned and continued at intervals during the night.

July 9, 10 a. m., pulse 110; abdomen was distended and tympanitic; there was an area of dulness at McBurney's point; diffuse tenderness. At 12 a. m., vomitus was of coffee-ground character; a high enema of salt solution came away almost clear. At 2 p. m., stercoraceous vomiting began. Pulse 120, feeble; temperature 100. In spite of the administration of calomel, salines and high enemas, constipation was complete.

I saw the patient at 6 p. m. Face pallid and expression anxious; breath foul. Mental condition normal. Found a few coarse râles at the base of both lungs; lungs otherwise normal; pulse, 120; heart sounds weak; abdomen moderately distended, right side more than the left; recti muscles very rigid. A distinct tumor about 2½ inches in diameter could be palpated at McBurney's point. There was marked tympany over abdomen everywhere, except at site of tumor. Note over tumor was dull but not flat. Temperature 100 2/5 F. A diagnosis of acute intestinal obstruction was made and the patient was hurried to the Bar Harbor Hospital, 18 miles distant.

Operation.—At 11 p. m. right rectus incision was made over most prominent part of tumor. Peritoneum was very dark in color; when opened, a large quantity of serous fluid escaped. Ileum immediately presented itself in the wound, black in color; gangrenous for about 30 inches. Mesentery was gangrenous for about half its depth, and all the vessels were thrombosed. No other lesion was found. The gangrenous bowel and its mesentery were quickly resected and anastomosis made with Murphy button. The abdomen was closed with through-and-through silkworm gut sutures without drainage.

Recovery.—Patient suffered but slight shock from the operation and reacted well under treatment. Murphy button was recovered on tenth day. The patient made an uninterrupted recovery and feels perfectly well one month after operation.

I want to acknowledge my indebtedness to Dr. Neal for the privilege of reporting this case.

16 High Street.

The Sacred Disease.—In the time of Hippocrates the Greeks called epilepsy the "divine ill" or the "sacred disease." Cullen says that it was so called because the ignorant thought it the result of divine punishment. Some of the old books say that the Sibyls rendered their answers in the midst of epileptiform convulsions. That the entire nation was not so densely ignorant nor superstitious regarding its origin, however, is proved by this remark by Hippocrates: "It appears to me to be in nowise more divine or more sacred than other diseases. Men regard its nature and cause as divine from ignorance and wonder because it is not like other diseases."—E. L. Hunt in *Medical Record.*

AN AVOIDABLE ACCIDENT DURING LUMBAR PUNCTURE

W. F. LORENZ, M.D.
MENDOTA, WIS.

While I had long entertained the possibility of breaking a needle during lumbar puncture, yet the accident happened only after a large number of punctures had been performed.

The patient was in the lateral position on the left side and fully flexed. He was held in this position by an attendant with one arm beneath the patient's knees and the other about his neck. Ethyl chlorid was used as a local anesthetic. The puncture was made in the fourth lumbar interspace just to the right of the median line and close to the upper border of the fifth spinous process. The patient apparently did not heed the entrance of the needle until its point was in the neighborhood of the canal, when he suddenly extended his back and the needle snapped, leaving 4 cm. well below the cutaneous surface. The patient was immediately anesthetized and a search made for the needle, without success. Three days later an *x*-ray picture was made and showed the needle lodged close to the upper border of the fifth lumbar spine. The patient was again anesthetized and the needle was easily removed.

This accident can be avoided if means are taken to prevent a sudden extension on the part of the patient. I have subsequently employed a simple contrivance, consisting of a light padded stick placed beneath the patient's knees and attached by means of light straps to canvas bands coming over the shoulder and beneath the arm-pit. The bent knees can be drawn as close as desired and consequently extreme flexion of the spine is obtained. This is desirable for successful puncture and the appliance makes sudden extension on the part of the patient impossible, thus safeguarding against accidents similar to the one reported.

Another fact brought forcibly to mind was the difficulty in finding the fragment of needle, although its approximate position was known. This emphasizes the help that can be derived from a skiagraph, as this showed the needle plainly in its relation to the spine and likewise gave its depth below the cutaneous surface.

It may be added that the patient experienced no ill effects from the presence of this fragment of needle. Shortly after the accident until the time of its removal, he was up and about.

OPSONOTHERAPY IN A CASE OF PUERPERAL SEPSIS

W. C. WOLVERTON, M.D.
LINTON, N. D.

History.—Feb. 3, 1911, I was called to a neighboring village to see Mrs. J. G., a German-Russian woman, quartipara, aged 24 years. This was on the twelfth day of the puerperium. The labor had been attended by a Russian midwife, who, in order (as she thought) to facilitate labor, had stuffed the vagina of the patient full of lard, which latter had stood in an open can in the kitchen for quite a while before being put to this rather remarkable use. It might be well to remark here that the midwife had not been guilty of washing her hands, even with water, before making any of her numerous examinations.

Examination.—When I first saw the patient, February 3, her temperature was 103, pulse 120; she had had chills for several days (it is impossible to get exact data from these people); severe headache; pains in back and limbs; anorexia; nausea and vomiting; in fact, all the symptoms of a profound sepsis. Also, there was a noticeable mitral murmur; no history of previous acute rheumatic arthritis, scarlet fever, etc. could be elicited. The abdomen was bloated, and very tender over the large, flabby uterus. From the vagina issued a stream of foul-smelling pus. Examination did not reveal any retained secundines.

Treatment and Course.—As it was impossible at once to determine the exact nature of the infecting microorganisms, a culture-tube was inoculated with some of the pus, and a "shotgun" vaccine was administered. This vaccine contained 40 million *B. coli*, 30 million *Streptococcus pyogenes*, and *Staphylococcus pyogenes aureus* and *albus*, 100 million of each; this was injected into the subcutaneous tissues of the thigh, so as to have the locally-formed opsonins travel "upstream" toward the focus of bacterial activity, as recommended by Wright. Physiologic saline enemata and douches of compound solution of cresol were ordered to be given every three hours.

February 5, found the subjective symptoms markedly improved; there had been no further chills, and the temperature was lower, pulse less rapid, and headache, nausea, etc., relieved.

Meanwhile, the bacteriologic examination showed the presence of *Streptococcus pyogenes* and *Staphylococcus pyogenes aureus* and *albus*, with the streptococci predominating. No *B. coli* were found.

February 7, I was again summoned, and was told that the patient had had a severe chill. The temperature and pulse-rate had again risen. A vaccine containing *Streptococcus pyogenes*, 60 million, and *Staphylococcus pyogenes aureus* and *albus*, āā 200 million, was injected, and the douches and saline enemata continued as before.

February 12, the patient was again seen, and was found to be so much improved that no further visits were made. On the occasion of this last visit, a dose of vaccine identical with that of February 7 was administered. From this time the patient made an uneventful recovery, and is now in perfect health. The only remedies used internally in this case were calcium sulphid, calomel and soda, and elixir ferri, quininæ et strychninæ phosphatum. During the period of nausea and vomiting, liquid peptonoids were administered per rectum.

This case looked so hopeless at the first visit that I made a prognosis of probable fatal outcome. Also, there was no nurse to care for the patient, and the douches and enemata had to be entrusted to the husband, a Russian not overburdened with intellect. Consequently, the case seemed worthy of note.

The vaccines used were of the "stock" variety. Every time a dose was administered, there was an emphatic response within twenty-four hours.

New and Nonofficial Remedies

The following additional articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association. Their acceptance has been based largely on evidence supplied by the manufacturer or his agent and in part on investigation made by or under the direction of the Council. Criticisms and corrections are asked for to aid in the revision of the matter before publication in the book "New and Nonofficial Remedies."

The Council desires physicians to understand that the acceptance of an article does not necessarily mean a recommendation, but that, so far as known, it complies with the rules adopted by the Council.

W. A. Puckner, Secretary.

LUTEIN TABLETS, H. W. & CO.—Each tablet is said to represent 1.3 Gm. (20 grains) of fully developed corpora lutea.

Actions and Uses.—See Corpus Luteum.

Dosage.—One tablet, three times a day.

Manufactured by Hynson, Westcott & Co., Baltimore. Not patented or trademarked.

QUININE TANNATE—Quininæ Tannas.—Quinine tannate is the tannate of the alkaloid, quinine, containing from 20 to 35 per cent. of quinine.

Quinine tannate may be prepared as follows:

> Ten Gm. of quinine sulphate are dissolved in a mixture of 15 Cc. of diluted sulphuric acid and 150 Cc. of water. Twelve Gm. tannic acid are dissolved in 75 Cc. water and the filtered solution poured slowly and with constant stirring into the solution of quinine sulphate. Three Gm. tannic acid are then dissolved in 50 Cc. water and 3 Gm. sodium bicarbonate dissolved in 50 Cc. water. These solutions are filtered, the filtrates mixed, and the mixture poured slowly and with constant stirring into the quinine-tannin mixture prepared as above described. The precip-

itated quinine tannate is allowed to stand for 24 hours. It is then poured onto a muslin filter, washed with 100 Cc. water and expressed with moderate pressure. The expressed mass is then transferred to a porcelain dish, 50 Cc. water added and the mixture heated on the water bath until the quinine tannate melts to a resin-like mass. The supernatant liquid is poured off, the mass cooled, dried in the air and pulverized.

Quinine tannate is an amorphous, pale lemon-yellow to yellowish-white, odorless powder without taste, or at most slightly bitter, and with scarcely any astringency. It is slightly soluble in water, ether and chloroform, but somewhat more soluble in alcohol. Its aqueous and alcoholic solutions are colored bluish-black by ferric chloride test solution. Quinine tannate melts on heating in a glass tube to a purplish, tar-like material.

If 1 Gm. of quinine tannate be shaken with a mixture of 50 Cc. of water and 1 Cc. nitric acid and the mixture filtered, a portion of the filtrate should not become more than slightly opalescent after the addition of 1 Cc. of silver nitrate test solution; nor should there be any darkening after the addition of 1 Cc. of hydrogen sulphide test solution; nor should a portion be rendered turbid immediately by barium chloride test solution.

If from 0.5 Gm. to 1 Gm. of quinine tannate be mixed with 25 Cc. water and an excess of ammonia water, the mixture extracted with 3 successive portions of 20 Cc. each of chloroform, the total solvent washed with water and evaporated, the weight of residue obtained after drying at 100° C. should correspond to from 29 to 35 per cent. of anhydrous quinine. If this residue be dissolved in 30 Cc. of water by the aid of a few drops of diluted hydrochloric acid and 1 Cc. of the solution be mixed with 20 Cc. of water and 2 or 3 drops of bromine test solution, the mixture should assume a green coloration on the addition of ammonia water.

If 0.2 Gm. quinine tannate be ignited no weighable residue should be obtained.

If from 0.5 Gm. to 1 Gm. quinine tannate be dried at 100° C. to constant weight the loss should not correspond to more than 10 per cent. of the weight of substance taken.

If 2 Gm. of quinine tannate be shaken with 3 successive portions of 25 Cc. each anhydrous ether, the solvent poured through a filter, the filter washed with 10 Cc. of the solvent, the several filtrates united, evaporated and the residue dried to constant weight at 100° C. the weight of the residue should not exceed 0.005 Gm. (limit of *uncombined alkaloid*).

Actions and Uses.—Quinine tannate has the action of other salts of quinine but on account of its insolubility its action is less certain than the more soluble quinine salts. Its lack of bitterness renders it a suitable preparation for administration to children.

Dosage.—Inasmuch as quinine tannate contains but about half as much alkaloid as quinine sulphate its dose is proportionately greater.

Non-Proprietary Preparations:

Quinine tannate, N. Y. Q.—Manufactured by the New York Quinine and Chemical Works, New York, N. Y.

Quinine tannate, Brunswick.—Manufactured by the Brunswick Chemical Works, Brunswick, Germany (Mallinckrodt Chemical Works, St. Louis, Mo.).

Quinine tannate, P. W. R.—Manufactured by Powers-Weightman-Rosengarten Co., Philadelphia, Pa.

Therapeutics

PRESCRIPTION-WRITING

(Continued from page 1208)

CHAPTER III.—WEIGHTS AND MEASURES

It is not necessary to describe here the old system or to give its tables of weights and measures, as they occur in every book on prescription-writing, but some tables of approximate equivalents to the metric system will be offered. Exact equivalent tables are a delusion and only tend to befog and discredit the metric system. When it is remembered how the doses of drugs vary, it will be recognized how absurd it is to figure an equivalent to its finer determinations.

It is not necessary to declare that the decimal (metric) system of prescription-writing is the better, because the fact is recognized by all and the only hindrance to its use is the supposed difficulty of mastering it. Science of all countries and even our own Pharmacopeia has adopted it. If the novice in the use of the metric system in prescription-writing will remember that it is a decimal system like our monetary system, that everything on the left of the decimal point or line represents grams or cubic centimeters [dollars], that everything on the right of the decimal line represents centigrams, milligrams, or fractions of a cubic centimeter [cents and mills], he will soon understand the system. For instance:

		gm.
$1.25 or 1 gram and 25 centigrams	=	1.25
$1.001 or 1 gram and 1 milligram	=	1.001
$0.50 or ½ gram or 50 centigrams	=	.50
$0.05 or 5 centigrams...........	=	.05
$0.005 or 5 milligrams...........	=	.005
also		c.c.
$1.25 or 1¼ centimeters.........	=	1.25
$1.001 or 1 1/1000 centimeters....	=	1.001
$0.50 or ½ of a centimeter........	=	.50
$0.05 or 5/100 of a centimeter.....	=	.05
$0.005 or 5/1000 of a centimeter...	=	.005

In this country it is customary in writing prescriptions in the metric system to write for solids in terms of grams and fractions of grams, and for liquids in terms of cubic centimeters or fractions of cubic centimeters. The same decimal line which should be ruled on the prescription blank answers for both solid and liquid metric measures, and precludes all possibility of careless decimal mistakes, as:

gm.
c.c.

The following table is self-explanatory. It, as well as much other matter below, is taken from Osborne's "Introduction to Materia Medica and Pharmacology."

		gm.	
"A gram is written... 1.	gm. or	1.	and read 1 gram.
A decigram is written . 0.1	gm. or	.10	and read, best, 10 centigrams.
A centigram is written 0.01	gm. or	.01	and read 1 centigram.
A milligram is written. 0.001	gm. or	.001	and is read 1 milligram.
		c.c.	
A cubic centimeter is written 1 c.c.	or	1	and read 1 cubic centimeter.

As above declared, it is useless to translate the old system into exact equivalents of the new system. One must compute the doses in the new system: one must forget the size of stock bottles and order amounts of liquids in multiples of five, as 15 c.c., 25 c.c., 50 c.c., 100 c.c., or 200 c.c.; one must remember that 5 c.c. is a teaspoonful dose, i. e., an ordinary teaspoon holds 5 c.c. and not 4 c.c. or a liquid dram; in other words, *every* prescriber in the old system has *always* given a larger dose than he intended when he computed the dose by fluidrams and then administered a *teaspoonful; one* should remember that the drop, so much used in prescribing *strong liquid preparations*, is as correct in the new system as in the old. All of these suggestions must be followed out to use the metric system successfully.

TABLE OF THE APPROXIMATE EQUIVALENTS OF THE TWO SYSTEMS

	gm. c.c.	
1 grain (gr.i) = approximately...	0|065	= 65 milligrams = 1 grain.
1 minim (♏i) = approximately...	0|065	= 65/1000 of a cubic centimeter = 1 minim.
15 grains (gr.xv) = approximately.	1|	= 1 gram = 15 grains.
15 minims (♏xv) = approximately.	1|	= 1 cubic centimeter = 15 minims.
1 dram (ʒi) = approximately.....	4|	= 4 grains = 1 dram.

1 fluidram (fl.ʒi) = approximately 4 = 4 cubic centimeters = 1 fluidram.
1 ounce (℥i) = approximately.....30 = 30 grams = 1 ounce.
1 fluidounce (fl.℥i) = approximately.30 = 30 cubic centimeters = 1 fluidounce.
1 quart = approximately 1000 c.c., or 1 liter.
1 pint = approximately 500 c.c.
1 teaspoonful = approximately 5 c.c."

It is always a good plan to use a stub prescription blank, and on the stub the individual doses may be written. This is another check on mistakes and also preserves for reference the exact dose given on the exact date, as:

Stub (one dose)		Prescription for 20 doses	gm. c.c.		Old system
℞		℞			
Strych. sulph.	001	Strychninæ sulphatis..	02		gr.1/3
Ferri reducti.	05	Ferri reducti.........	1	or	gr.xv
Quin. sulph...	10	Quininæ sulphatis....	2		gr.xxx
M. et F. cap.		M. et F. capsulas 20.			
Sig.: t.i.d., p.c.		Sig.: A capsule 3 times a day, after meals.			
Name.					
Age.					
Date.					

Or,

Stub (one dose)		Prescription for 20 doses	gm. c.c. (approximately)		Old system
℞		℞			
Codein. sulph..	.01	Codeinæ sulphatis..	20		gr.iv
Ammon. chlor.	.25	Ammonii chloridi ..	5		ʒiss
Syr. acid. cit..	1.25	Syrupi acidi citrici.	25		fl.℥i
Aquam ....*ad* 5.		Aquam ....*ad*	100		*ad* fl.℥iv
M.		M.			
Sig.: 5 c.c.q. 2 h. in H_2O.		Sig.: A teaspoonful, in water, every two hours. *Shake.*			

It is well to use the Arabic numerals instead of the Roman in the new system, as:

℞
Pilulas rhei compositas No. 20.
Sig.: One pill after supper.

Stub (single dose)		Prescription	gm. c.c.		Old system
℞		℞			
Tr. digitalis.		Tincturæ digitalis...	25	or	fl.℥i
Sig.: 10 drops in H_2O b.i.d., p.c.		Sig.: Ten drops, in water, twice a day, after meals.			

Stub		Prescription	gm. c.c.		Old system
℞		℞			
Ung. hg. ammon.		Unguenti hydrargyri			
Petrolati ....āā	10	ammoniati	10	or	
M.		Petrolati	10		āā ʒiiss
Sig.: Externally.		M.			
		Sig.: Use externally as directed.			

CHAPTER IV.—INCOMPATIBILITY

This is prevented only by great care and simplicity. Too many drugs should not be prescribed. Too many solutions should not be combined. Too many drugs and too much medicine should not be given to one patient on any one or two days. Many drugs are accumulative and many of their physiologic activities are antagonistic. Drugs may be incompatible *therapeutically, chemically and pharmaceutically.*

Therapeutic incompatibility occurs when drugs are combined which have antagonistic physiologic actions.

Chemical incompatibility occurs when from the combination of two or more drugs a new and undesired chemical compound results.

Pharmaceutic incompatibility occurs when drugs are combined which form, either immediately or later, cloudy, precipitated or decomposed solutions.

An educated physician should be ashamed to perpetrate a therapeutic incompatibility either in a prescription or in a patient. It is not therapeutic incompatibility, however, to modify a too decided action of a drug with one that corrects an undesired effect. This is a part of therapeutic science.

Pharmaceutical incompatibility is so closely related to chemical incompatibility that many times both are governed by the same rule. Such incompatibility is difficult to avoid, and therefore it is advisable to adopt simplicity in prescription-writing; this is really a therapeutic gain.

Below is given an alphabetical list of drugs comprising those that should generally be given alone, especially in solutions. The chemical reasons are appended:

Acids, unless very dilute and in small amount, should be prescribed alone. They combine with bases to form salts, and are incompatible with oxids, alkalies, alkaline salts, hydrates and carbonates. They all precipitate albumin.

Alkalies and alkaline carbonates should rarely be prescribed in solution with other drugs. They form salts with acids and precipitate many metallic and alkaloidal salts.

Alkaloidal salts should rarely be combined with other drugs in solutions. They are precipitated by alkalies, alkaline carbonates, earthy carbonates, preparations containing tannic acid, and by iodids in solution.

Antimony and potassium tartrate (tartar emetic) should be prescribed in solutions alone. It is incompatible with acids, alkalies, tannic acid, and preparations containing tannic acid.

Arsenic (arseni trioxidum, arsenious acid) should generally be prescribed in solutions alone.

It is precipitated by salts of iron, magnesia, and solutions of lime.

Bromids in solution should not be combined with alkaloids. They precipitate the salts of morphin, quinin, and strychnin from neutral solutions.

Ferric and ferrous salts should generally be prescribed alone. They are incompatible with tannic acid and all drugs containing it; with alkaline carbonates, ammonia, and acacia.

Iodids should generally be prescribed alone.

They are incompatible with salts of alkaloids and metals and with mineral acids.

Mercuric chlorid (corrosive sublimate) should generally be prescribed alone. It is incompatible with many drugs.

Mercurous chlorid (calomel), though insoluble, had best not be prescribed in mixtures. In solutions containing chlorids it may be converted into the mercuric salt.

Resins, including oleoresins, and fluidextracts and tinctures containing resins, should not be prescribed in watery solutions, though they may be ordered in emulsion by suspending them with the mucilage of acacia or tragacanth.

They are all precipitated by water.

Silver nitrate solutions and solutions of all silver salts must be ordered alone, and kept in dark bottles. If silver salts are prescribed for internal administration they must be alone or combined with some earth, and given in capsules.

Strophanthus in the form of the tincture should not be prescribed in solutions containing water.

It slowly forms a toxic substance, when in watery solution.

Spirits (spiritus), except sweet spirits of niter, whisky and brandy, should mostly not be prescribed with watery preparations. They become cloudy on the addition of water.

Tannic acid, and all drugs containing tannic acid, should not be prescribed with most drugs. They are incompatible with alkaloids, salts of iron, lead, silver and antimony.

(To be continued)

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

535 DEARBORN AVENUE . . . CHICAGO, ILL.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

[*For other information see second page following reading matter*]

SATURDAY, OCTOBER 14, 1911

ANAPHYLAXIS AND THE ONSET OF LABOR

The problem of the onset of labor has long been a favorite subject of conjecture, and of the theories invoked to explain it there is no end; hence it was to be expected that sooner or later the results of modern immunologic work would be brought to bear on this question. In a recent article, von der Heide[1] presents some experimental results and deductions from them, which apparently serve to explain the problem on this basis.

It had previously been observed in the case of twin girls, united like the classical Siamese twins, that during the pregnancy of one, the other as well showed the secondary symptoms; but that during parturition, the non-parturient felt no inconvenience. White rats artificially united to pregnant companions, on the other hand, suffered no disturbance until the onset of labor, when they became very sick and occasionally died. Those most likely to survive were found to be those united longest to their fellow. Inasmuch as such work pointed unmistakably toward the discharge of toxic substances with antigenic properties into the blood of the mother, with a presumable development of antibodies, von der Heide undertook to study the problem by means of the blood itself. His first work, consisting in the injection of blood from parturient women into women in advanced pregnancy, was without result. Thereupon he tried the injection of fetal blood in similar cases, and with this a certain proportion gave definite reactions. In four cases labor pains, previously absent, followed more or less directly after the injection of the serum, usually within three or four hours, and continued to delivery. In two instances, only 2 c.c. of serum were needed; in one, no result occurred until after a second injection. In three other cases, transitory pains followed; eight gave completely negative results. Injections during weakening pains in actual labor resulted in their renewal in six instances. The effect on the pains was usually preceded or accompanied by a transient rise in temperature and pulse-rate.

The explanation of these results, von der Heide believes, is to be sought in the direction of a gradual liberation of fetal products into the maternal circulation during pregnancy, and the formation of antibodies to these. Toward the end of pregnancy an excessive amount of this fetal antigen enters the mother's blood, and the reaction between this and the antibodies previously formed sets free labor-inducing substances, i. e., gives an anaphylactic reaction, resulting in the onset of labor.

Viewed in this light, it is easy to see why the injection of fetal blood should induce pains, while that of parturients would be without effect unless given in very large doses, because of the dilution of the fetal products in it. And while the symptoms of labor are by no means typical of anaphylactic shock, the conditions of sensitization and reaction would be different enough between the two to afford a satisfactory explanation of this. Incidentally, many of the minor phenomena of pregnancy point toward an anaphylactic condition—the frequency of urticaria, of albuminuria, of vomiting, the peculiar action of narcotics. Eclampsia itself has many of the features of acute anaphylactic shock.

It is, of course, too early to pass judgment on this theory in the light of our present limited knowledge both of anaphylaxis and of the causes underlying the onset of labor. Further work must be done to test its validity; but whether or not it will stand this test, it will at least have had the merit of bringing into the center of interest an obscure but important physiologic problem.

ANTIFAT AND SOCIETY WOMEN

Under the display heading "Antifat Drug a Peril: Many Newport Society Leaders Suffer From Using Preparation," an eastern newspaper prints the following "special" from Newport, R. I.: "Every now and then it is reported that a Washington, New York or Philadelphia or Boston or western woman, who has been a shining light in society here, is in bad health, and it is the proper thing to say she has broken down under the strain of her social duties. But it became known to-day that the poor health of some women who have broken down here has been caused by the use of a dangerous antifat drug, with which fashionable women in Europe first experimented. Women in Newport have been using this drug ever since fashion decreed that a truly fair one must be slender. So threatening have been the consequences of using it that these women have abandoned the drug. Physicians are treating them to restore the normal tone of their systems, and they gladly submit to medical treatment, even at the risk of regaining their stoutness."

It would be interesting to know the name of the "antifat" the ladies of this aristocratic colony are using. It is quite probable that it is one supplied by some of the mail-order quacks, the main ingredient of which is thyroid. This drug is so much more effective as a fat-reducer than any of the older ones that it has practically replaced the latter. But like most effective drugs it has its dangerous side. A few years ago when Germany placed strict restrictions on the sale of thyroid it was common gossip that this action was accelerated by the fact that some of the first ladies of that country had had an experience similar to that reported from Newport.

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[1] Von der Heide, A.: München. med. Wchnschr., 1911, lviii, 1705; abstr. in The Journal, Sept. 29, 1911, page 1090.

Thyroid is stated to be used more extensively as an antifat than for any other purpose. It is used as such and, as some of the Washington officials have found, as an ingredient of many patent medicines. It would be well for physicians to make inquiries on this subject when consulted by obese patients complaining of sleeplessness, nervousness, palpitation, gastric disturbances, etc.; patients are not very likely to volunteer the information that they have been taking thyroid and still less that they have been patronizing some mail-order house. In fact, we have heard of patients who recognized that their troubles were due to a drug of this class and who thought it "a joke on the doctor" because he had not suspected it.

The use of thyroid in obesity is not only accompanied by a certain degree of danger, especially if the patient is not under constant medical supervision, but it is in most cases an illogical form of treatment. It is now recognized that it is unsafe to make any material reduction in the diet, except in the fat, during a course of treatment; otherwise there will be a loss of body protein as well as of fat, and a loss of protein seems to be closely associated with the untoward symptoms often observed. In other words, in a safe reduction cure by thyroid more food than the body needs is taken; this excess and some of the body's own fat is burned up under the influence of the thyroid. The organs are thus forced to do an unnecessary amount of work.

In diet cures, on the other hand, as Chittenden for example has shown, the diet may be greatly restricted (even to two-thirds of the body's requirements) and a considerable amount of fat lost without any danger to the body protein.

Although in most cases of obesity, treatment by thyroid is essentially illogical and treatment by diet and exercise logical, there will always be patients who will refuse to follow instructions as to the latter; in such cases and in certain others which do not yield readily to a diet-cure (cases of "constitutional obesity"), thyroid may be used, but it should never be placed in the patient's hands without careful supervision. Patients should also be warned that the fat will promptly return after the thyroid treatment unless they learn to regulate their diet and exercise properly, and emphasis should be laid on the fact that in almost every case the obesity is due simply to over-eating or to lack of exercise or to a combination of these.

VEGETABLE JELLIES AND MUCILAGES AS FOODS

The food-value of various mucilaginous and gelatinous plant substances has been highly appraised by the layman and by most physicians for untold years. In some countries, notably Japan, Turkey and Hawaii, such substances are staple articles of diet; in Scotland and Ireland the dulse is a favorite food. Clinicians have frequently tried various articles of this class, especially as substitutes for starches and sugar in diabetes; and Iceland moss is found in drug-stores as a standard article of commerce, being sometimes used as a delicacy for consumptives, who are expected to secure much benefit from its digestibility and its reputed high nutritive value. The United States Dispensatory itself goes on record to the effect that the mucilaginous extract of slippery elm bark, and also the Turkish salep, are highly nutritious. It is strange that, in spite of the prevalence of the use of lichens, algæ, and other gelatinous or mucilaginous vegetable substances as food, their real nutritive value has not received previously any serious investigation; hence a recent extensive study of ten articles of this class by Dr. Mary D. Swartz[1] is all the more to be appreciated.

Most of the carbohydrates of the vegetable substances under consideration belong to the hemicellulose group: that is, they are not converted into sugar by diastase, but are readily hydrolyzed by dilute acids. According to the sugars they yield on hydrolysis they are designated as pentosans, dextrans, mannans, galactans, etc. Thus agar-agar is a galactan, since it is composed of molecules of galactose united through dehydration and readily separated by hydration with acids; Irish moss also contains a galactan, while Iceland moss contains chiefly dextrans, dulse is rich in pentosans, and the gelatinous material of salep is a mannan. Cellulose itself is a dextran, and were it as readily hydrolyzed by the digestive enzymes as the starches it would be just as good a food. Unfortunately, at least from an economic standpoint, the human organism does not seem to be provided with enzymes capable of disintegrating cellulose, and so we rely on the hydrolysis by strong acids in the works of the glucose trust to render the fibrous cellulose into its assimilable sugar.

Only recently has the therapeutic importance of the utter indigestibility of some of the hemicelluloses been recognized, and whereas formerly agar-agar and similar substances were put on the market as "vegetable gelatins" of great value as foods, now the same things are sold as laxatives because they are not assimilated at all, and hence greatly increase the bulk and softness of the feces. Of the ten varieties of hemicellulose foods studied by Dr. Swartz, dulse and salep showed the highest utilization, both of these disappearing entirely from the contents of the *alimentary tract. Irish moss, however,* was passed out in the feces almost entirely, and the other preparations were recovered to the extent of 40 to 90 per cent. The partial utilization observed must be ascribed to alteration through bacterial action, since no good evidence could be obtained of the presence of diastase capable of digesting these hemicelluloses, and the several varieties disappeared from the intestine in direct ratio to their susceptibility to bacterial decomposition. Whether bacterial disintegration of hemicelluloses yields sugars or products which are utilized by the human body is still another question, to be determined only by careful study of respiratory exchange. In any case these investigations of the food-value of hemicelluloses indicate that most of the forms commonly used for food can give but little nourishment; possibly some varieties have a certain value, but it will be entirely unsafe to rely on one of them for any considerable part of the dietary of either sick or well, until careful investigations have established its actual food-value. With due appreciation of the limits of their nutritive value, they may, of course, be used as gelatinous or mucilaginous bases of food or drink, and as laxatives or as vehicles for drugs under proper conditions.

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[1] Tr. Conn. Acad. Arts and Sciences, 1911, xvi, 247. In more accessible medical literature are two other articles from the same laboratory, viz.: Mendel, L. B.: Das Verhalten einiger unverdaulichen Kohlehydrate in Verdauungstrakt, Zentralbl. ges. Phys. u. Path. d. Stoffw., 1908, No. 17. Mendel, L. B., and Swartz, Mary D.: The Physiological Utilization of Some Complex Carbohydrates, Am. Jour. Med. Sc., March, 1910.

ERGOT AND THE MANUFACTURER OF PHARMACEUTICALS

Last week we commented on a bulletin just issued by the Public Health and Marine-Hospital Service on the standardization of ergot; this week, under "The Propaganda for Reform" we print the conclusions of this bulletin as they relate to the examination of a number of commercial preparations. Comments on these results are scarcely needed. They show again how little reliance can be placed on the statements of the "great manufacturing houses" in regard to their so-called "ethical" proprietaries and pharmaceutical "specialties." Of course, these houses will raise vigorous objections, doubtless similar to those raised to the reports on epinephrin and digitalis. Some "didn't know"; but they should have known before making such positive claims. All will doubtless complain that the preparations examined were few in number and were old. The preparations were few in number, as the authors state, but it is suggestive that not one of them approached the strength claimed. Possibly some were old, but they are claimed to be "permanent"; at any event they were obtained in the open market, under exactly the same conditions as those under which physicians obtain them every day. Some firms may even go to the length (or depth) that Parke, Davis and Co. did a year or two ago when the Hygienic Laboratory reported on one of their digitalis preparations—digitalone; a physician forwarded to THE JOURNAL a letter from this firm in which they said: "We have reason to suspect that these old samples were purposely selected for *the test." On that occasion, as on* this, the preparations were bought through the regular purchasing departments of the University of Michigan and of the Hygienic Laboratory, and there is certainly no reason for believing that these institutions would receive worse preparations than would a physician.

The plain truth is that although these large firms are perfectly able financially, and probably scientifically, to prepare trustworthy preparations, or if not, are able to learn how to do so, they show an indifference as long as they can sell their products. This strongly suggests that the biologic laboratories maintained by them are mainly for advertising purposes. Surely after several decades of experience they should have learned that their products are not "permanent" and should have adopted the simple and honest expedient of stating the date of manufacture on the label and the period during which the preparations could reasonably be expected to be of therapeutic value; they could have learned the conditions under which the preparations deteriorate and if these were controllable pharmacists could have been instructed accordingly. Yet the facts are that one of the chief claims made for practically all the proprietary preparations of ergot is that of permanency! As usually happens in such cases, the firms which lay the greatest stress on some particular quality of their proprietary preparations are the very ones whose products are found to be most lacking in that particular quality. So, in this instance, the firms whose claims for the permanency of their preparations are most conservative are the ones whose products come nearest to measuring up to the desired standard; while those concerns whose proprietaries are the least dependable are the ones that make the most vociferous claims for permanency and reliability.

The Council on Pharmacy and Chemistry was organized to help physicians discriminate between trustworthy and untrustworthy drugs, and manufacturers who had preparations which they were willing to have submitted to examination, for inclusion in New and Nonofficial Remedies, were invited to submit them to the Council. These studies again justify the distrust with which many of the better-informed physicians regard products which are not in New and Nonofficial Remedies.

Unfortunately the Food and Drugs Act in its present form does not permit the government to proceed against firms or individuals who place on the market misbranded drugs of this character; hence physicians are dependent on the work which their representatives on the Council on Pharmacy and Chemistry, in the Association Laboratory, and in the Hygienic Laboratory, can do for them. The Association proposes to continue this work; it also trusts that the Hygienic Laboratory will continue to help the physician and public by further work of this character and that its activities will not be hampered by lack of appropriations and by the kind of red tape which has temporarily *almost paralyzed* the Bureau of Chemistry of the Department of Agriculture.

Current Comment

INVIDIOUS COMPARISONS BY THE BORAX PEOPLE

The borax trust is still spending a good deal of money sending out letters through its press-agent, "H. L. Harris." At this time it is trying to offset the splendid tributes which the American press has paid to Dr. Wiley in the last few weeks. If this "Harris" letter went no further than to damn the Bureau of Chemistry and its chief, we should not take the trouble to refer to the borax people again. But incidentally it panegyrizes the Bureau of Animal Industry, the department that has charge of examining the meat-supplies of the country. And now comes the *National Provisioner* of New York, also unfriendly to Dr. Wiley, with a long editorial criticizing the chief of the Bureau of Chemistry and praising the Bureau of Animal Industry. The argument seems to be that while Dr. Wiley's bureau has not had a placid and uneventful career, the Bureau of Animal Industry runs on "without friction." As the public loves Dr. Wiley for the enemies he has made, so it will regard the Bureau of Animal Industry with suspicion on realizing who are the friends of that bureau. As a general proposition, any government department which stands between organized greed and the public health will inevitably develop "friction" if it works in the interest of the public. Conversely, when such a piece of governmental machinery is working without friction it behooves the public to inquire closely into the source that is furnishing the lubricant. It is not altogether true that the Bureau of Animal Industry has been free from criticism. It will be remembered that a year or so ago some ugly charges were preferred against some of the government officials in this department relative to the inefficient way in which the meat-supply at St. Louis was inspected. In this case, however, the criticism was not that the government was hurting "business interests," but that it was not giving the public the degree of protection against diseased meat for which that bureau is supposed to exist! All things considered, any invidious comparisons between the Bureau of Chemistry and the Bureau of Animal Industry will be likely to react to the detriment of the latter, whose chief may be tempted to cry: "Save me from my friends!"

THE TREATMENT OF RHUS POISONING

The publication in THE JOURNAL[1] of several communications on the treatment of ivy poisoning, and the inefficacy of the methods currently employed for the alleviation of this distressing condition, may justify reference to the properties of the toxic agent and a rational procedure to eliminate its effects. The leaves and flowers of the poison ivy plant yield a poisonous tar which is soluble in both alcohol and ether and has been extensively investigated by Acree and Syme[2] in Baltimore. The familiar method of treating the skin eruption consists in the use of an alcoholic solution of acetate of lead. This is most unsatisfactory, as Acree and Syme have pointed out, because the action of the remedy "consists in depositing an unstable lead salt of the poison in the skin, where the conditions of moisture and temperature are favorable for its decomposition, liberating the poison with all its irritant properties." There is great difficulty in reaching the poison which has permeated the skin (hence the presumable efficacy of the vigorous "scrubbing" advocated in one of the communications to THE JOURNAL[1]). One must assume, despite the reports alluded to, that the use of both alcohol and ether solutions is to be avoided, because they act as solvents and may thus serve to spread the poison over large areas—unless perhaps they are used in sufficient quantities to wash away the dissolved poison. A correspondent in this issue suggests the use of rubber gloves to avoid spreading the poison. Acree and Syme have found that potassium permanganate completely oxidizes the poison. This has furnished the basis for a rational method of treatment repeatedly tested and found by them to effect a speedy cure. The part affected is immersed in, or bathed with, a solution of potassium permanganate as hot as can easily be borne. Where the skin is broken, dilute solutions (1 per cent.) should be used; otherwise the concentration may be varied according to the location and condition of the eruption. A little dilute alkali or sulphuric acid is advantageously added to the permanganate solution; the oxidizing power is greater in the acid solution. In rare instances, when the poison is present deep in the skin, it should be exposed to the action of the permanganate for a considerable time. The dark stain produced by the permanganate will wear off or can be removed by vigorous scrubbing with soap; or it can be dispelled at once by a warm solution of oxalic acid (with due precaution). The extremely rare cases of systemic intoxication through entrance of the poison directly into the circulation obviously require special constitutional treatment.

WILL ILLINOIS BE EASY?

S. R. Chamlee, M.D., is a cancer-cure faker whom Samuel Hopkins Adams characterized as "a scoundrel who endeavors to frighten women into taking his treatment by advertising in the papers, 'in woman's breast any lump is cancer.'" For some years Chamlee carried on his nefarious trade at St. Louis, Missouri. Nemesis, in the form of post-office fraud order, finally overtook him and closed the mails to him.[1] He attempted to evade the law by changing the name of his business to the "St. Louis Sanitarium Company" and by instructing his prospective victims to send their money "through an express company" and not by post-office money order, because he could not cash the latter. The post-office extended its fraud order to the "St. Louis Sanitarium Company" and this irrepressible quack assumed another name, the "United Specialist Cancer Cure Company." The post-office, in time, still further extended its order. All this happened in the latter part of 1909. For a year or more the magazines and newspapers have been free from Chamlee's advertisements. Within the last month or two, however, Chamlee has again commenced advertising. But he has changed his headquarters; instead of operating from St. Louis he is now in Chicago. The advertising matter, "form letters," pamphlets, etc., that Chamlee now uses are apparently identical with those which he used in St. Louis. Chamlee has no license to practice in Illinois—although, we believe, he is licensed in Missouri and Iowa. For this reason, in order to keep within the law, it is necessary for him to employ some renegade physician who is licensed. This, apparently, he intends to do, for the following advertisement appeared in the Chicago *Tribune* a week ago:

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[1] THE JOURNAL A. M. A., Sept. 30, 1911, p. 1151; Oct. 14, 1911, p. 1304.

[2] Acree and Syme: Jour. Biol. Chem., 1907, ii, 547.

[1] This case was referred to in THE JOURNAL A. M. A., Jan. 15, 1910, and a full account appears in "Nostrums and Quackery," page 31.

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In another department[1] appears an abstract of a recent decision by the Supreme Court of the State of New York, in the case of Ewald against the Medical Society of the County of New York, in which the court holds that a member of a medical society cannot by injunction prevent the society from trying him on charges preferred against him. In this case, after the charges were preferred, and before the trial, the plaintiff sent in his resignation, but as the by-laws of the society provided that no resignation could be accepted from a member under charges, the court held that the defendant society had a right to ignore the resignation and to proceed to discipline its member according to its by-laws. The court further says that a member joining a professional society assumes an obligation not only to conform to the rules of the society, but also to observe its standard of professional ethics, and that, having voluntarily become a member of such an organization, he is bound by his act to submit to its rules and conform to its standards. Practically, the decision in this case amounts to an affirmation of the right of a professional organization to enforce its professional standards, and to discipline its members, so long as it acts in accordance with its own by-laws and proceeds in a legal and orderly manner.

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In the Medical Economics Department of The Journal appears an extract from a recent editorial in *La Follette's Weekly*. The daily press, for several days past, has contained dispatches from Washington, regarding the efforts to be made at the coming session of Congress to secure the passage of Senator Owen's Senate Bill or some similar measure providing for a national department, or an independent bureau, of health. It seems fitting, at the present time, to call attention to a few errors into which, apparently, some persons and organizations have fallen regarding this proposed department of health. 1. The American Medical Association is not a "medical trust." To intelligent and thinking people, such a statement is not necessary. It is a national professional organization of scientific men, endeavoring to be of service to the people and to elevate the standard of medicine. It could not "establish a monopoly" of healing if it desired to do so, and it would not if it could. It would limit the right to care for the sick to those who have sufficient knowledge of the human body to assume such a responsibility with safety to the patient and the public. And in this aim it should have the support of all right-thinking people. 2. A national department of health would exist for the study and prevention of human diseases, and not for the treatment of individual patients. Many sincere but misinformed persons have opposed such action on the part of the federal government because they have not distinguished between disease and the person afflicted with the disease. A national department of health would study diseases, their cause, method of transmission and prevention, just as the Department of Agriculture investigates seeds, soils, crops and animal and vegetable diseases. It would have no more authority over the individual invalid than the Department of Agriculture now has over the individual farmer. 3. One of the favorite arguments made against a national department of health is that it would establish a "state school of medicine" and would limit the practice of medicine to a certain class. This argument, of course, is absurd. The establishment of a Department of Agriculture has not resulted in a state school of agriculture, nor has the establishment of a Department of Commerce and Labor brought about a state school of business or labor. Furthermore, every competent lawyer knows that the regulation and restriction of the practice of medicine, like that of any other profession or calling, is a function of the individual state and not of the national government. Congress has no right to say, and could not say, who shall or shall not practice medicine in Illinois or New York or California. Each state must settle this question as it sees fit. 4. The American Medical Association is not responsible for the bills recently introduced into the senate; they were prepared by Senator Owen, on his own initiative. The American Medical Association is naturally in favor of such a bill and will do all in its power to secure its passage, but the credit of originating it is due to Senator Owen. The American Medical Association has urged such legislation for over twenty years. It will continue to urge it and to do everything it can to secure it, now and in the future, until Congress shows the same regard and gives the same care to human life that it now gives to that of the animal, to crops and produce, to banks and business concerns, and to the innumerable material interests of the people which the federal government now safeguards. The objections urged against this measure are either figments of the imagination, held by sincere but misguided and prejudiced persons, or specious and fallacious objections raised by those having a selfish interest in the perpetuation of existing conditions. The misguided must be enlightened and the selfish objectors must be exposed. The more discussion there is on this important subject, the better. The more thoroughly the plan is understood, the clearer will its advantages be seen, and the sooner will it become a reality.

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KANSAS

Personal.—Dr. W. L. Gleason has succeeded to the practice of Dr. Charles F. Kyser, Conway Springs. Dr. Kyser is reported to be seriously ill in St. Francis Hospital at Colorado Springs, Colo.——Dr. John D. Horne, Coffeyville, is confined to his home, as a result of cerebral hemorrhage.——Dr. George H. Matchette has been elected a director of the McPherson Hospital.——Fire in Greenleaf, September 5, destroyed the office of Dr. Z. Hosea Snyder, who suffered a loss of $5,000.——Dr. William W. Minick has been elected mayor of Wichita.——Dr. James Stewart has been appointed city physician of Topeka.——Dr. Ansel M. Edison, Topeka, has retired from practice and will make his home in La Porte, Tex.——Dr. Mortimer Marder, police surgeon of Kansas City, has resigned.

MARYLAND

Herter Memorial Meeting.—The medical faculty of the Johns Hopkins University and other friends met October 5 to commemorate the life and work of the late Dr. Christian A. Herter, New York City, who with his wife founded the Herter lectureship.

Baltimore

Home from Europe.—Drs. James J. Mills, William S. Thayer, Joseph E. Gichner and Lewellys F. Barker have returned from Europe.

Typhoid Vaccin Adopted.—Typhoid vaccin is to be used in the state institutions by decision of the state board of health published October 5.

Kossel Entertained.—At the conclusion of the Herter lectures Dr. Albrecht Kossel was entertained at dinner at the Maryland Club by Dr. William H. Welch. About twenty members of the faculty of the Johns Hopkins school were present. Dr. and Mrs. Kossel will sail for Europe October 24.

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"Typhoid-Carrier" Freed.—Miss Rosie E. Pell, the alleged typhoid-carrier, on October 2 was given a permit by the Chicago Health Department to return to the house of her stepfather, Gilbert Boersma, a dairy farmer at Mount Greenwood, who sells milk in Chicago. She goes back to the farm on the understanding that she is to have nothing to do with the handling of milk.

KANSAS

Personal.—Dr. W. L. Gleason has succeeded to the practice of Dr. Charles F. Kyser, Conway Springs. Dr. Kyser is reported to be seriously ill in St. Francis Hospital at Colorado Springs, Colo.——Dr. John D. Horne, Coffeyville, is confined to his home, as a result of cerebral hemorrhage.——Dr. George H. Matchette has been elected a director of the McPherson Hospital.——Fire in Greenleaf, September 5, destroyed the office of Dr. Z. Hosea Snyder, who suffered a loss of $5,000.——Dr. William W. Minick has been elected mayor of Wichita.——Dr. James Stewart has been appointed city physician of Topeka.——Dr. Ansel M. Edison, Topeka, has retired from practice and will make his home in La Porte, Tex.——Dr. Mortimer Marder, police surgeon of Kansas City, has resigned.

MARYLAND

Herter Memorial Meeting.—The medical faculty of the Johns Hopkins University and other friends met October 5 to commemorate the life and work of the late Dr. Christian A. Herter, New York City, who with his wife founded the Herter lectureship.

Baltimore

Home from Europe.—Drs. James J. Mills, William S. Thayer, Joseph E. Gichner and Lewellys F. Barker have returned from Europe.

Typhoid Vaccin Adopted.—Typhoid vaccin is to be used in the state institutions by decision of the state board of health published October 5.

Kossel Entertained.—At the conclusion of the Herter lectures Dr. Albrecht Kossel was entertained at dinner at the Maryland Club by Dr. William H. Welch. About twenty members of the faculty of the Johns Hopkins school were present. Dr. and Mrs. Kossel will sail for Europe October 24.

Personal.—Dr. James H. Bay has been appointed by the postoffice department as examining physician to the civil service board of examiners for Havre de Grace.——Dr. Eugene Wright has succeeded Dr. Don P. Peters as superintendent of the Church Home and Infirmary.——Dr. J. George Schmetzer is ill with typhoid fever at the Union Protestant Infirmary.——Dr. George J. Heuer has succeeded Dr. Charles M. Remsen, resigned, as resident surgeon at Johns Hopkins Hospital.——Dr. H. Ross Coppage has been appointed a member of the public bath commission.——Dr. B. Merrill Hopkinson, after twenty-one years service as soloist and choirmaster of Brown Memorial Church, has resigned. He was given a purse of gold by the congregation as a testimonial.

MASSACHUSETTS

Ether Day.—The sixty-fifth anniversary of Ether Day will be celebrated by appropriate exercises at the Massachusetts General Hospital, Boston, October 16. The address of the occasion will be delivered by Dr. Simon Flexner, New York City.

Personal.—Dr. George G. Bailey, Ipswich, has been appointed medical examiner of Essex County.——Dr. Ernest B. Emerson, superintendent of the North Reading State Sanitarium, has been appointed medical director of the state farm at Bridgewater, vice Dr. Alfred Elliott, retired.——Dr. David F. Atwater, Springfield, is said now to be the oldest alumnus of Yale College.

Council Meets.—At the stated meeting of the Council of the Massachusetts Medical Society, October 4, Drs. Charles F. Caney, Greenfield, and Justus G. Hanson, Northampton, were appointed delegates to the Vermont State Medical Society, and Drs. Lyman A. Jones, North Adams, and Richard S. Benner, Springfield, delegates to the Medical Society of the State of New York, and Dr. Percy E. Brown, Boston, was appointed a delegate to the Medical Society of Virginia. Dr. Horace D. Arnold, Boston, presented the report of the delegates to the American Medical Association and Dr. Harold C. Ernst, Boston, reported for the committee on state and national legislation the contemplated efforts to raise the standard of applicants for registration in medicine and hoped thereby that "Massachusetts may be lifted from its deplorable condition in this matter, in which it is so far behind, practically, almost all the states in the Union."

MINNESOTA

Personal.—Dr. Robert O. Earl, St. Paul, has returned from Europe.——Dr. John J. Eklund, Duluth, has resigned as a member of the State Board of Visitors.

Rush Alumni Meeting.—In connection with the annual meeting of the State Medical Association in St. Paul, the alumni of Rush Medical College, resident in Minnesota, held a meeting at which Dr. Bertram W. Sippy, Chicago, was the guest of honor. Dr. William H. Rowe, St. James, was elected president: Dr. T. C. Masters, Sauk Center, vice-president, and Dr. Bayley, Lake City, secretary.

State Medical Association Meeting.—The annual meeting of the Minnesota State Medical Association was held in St. Paul, October 4-6, and the following officers were elected: Dr. Haldor Sneve, St. Paul, president; Drs. Olaf T. Sherping, Fergus Falls, and William F. Wilson, Lake City, vice-presidents; Dr. Thomas S. McDavitt, St. Paul, secretary, reelected, and Dr. Richard J. Hill, Minneapolis, treasurer, reelected. It was decided to hold the next annual meeting at Duluth, Minn.

MISSOURI

Personal.—Dr. William S. Saunders, Clarence, is reported to be seriously ill.——Dr. John H. George, Leeds, has succeeded Dr. Addison M. Harrison, Lees Summit, as superintendent of the Jackson County Poor Farm.——Dr. John J. Farrell, Hannibal, has been elected secretary of the Marion County Board of Health.——Dr. and Mrs. George S. Drake, Jr., St. Louis, have returned from Europe.——Dr. Heine Marks, St. Louis, who has been seriously ill with septicemia, is reported to be improving.

St. Louis

New Milk Ordinance.—The Civic League has prepared an ordinance creating the position of chief milk inspector with a corps of assistant inspectors giving them power to inspect all dairies that furnish milk for consumption in St. Louis; providing for a system of licensing dairies by the board of health; and establishing a standard of ingredients. The proposed ordinance was of course vigorously opposed by the milk dealers, they claiming that it would give too much authority to the inspector and would compel a rise in the price of milk to 12 cents a quart. The bill in its present or a modified form will be introduced in the municipal assembly by the board of health.

NEW YORK

Personal.—Dr. Arthur J. Bedell, Albany, has returned after a trip from Japan, Siberia, Russia and England.——Dr. Roy L. Leak of the Ogdensburg State Hospital has been appointed second assistant physician at the Matteawan State Hospital and Dr. William J. Tiffany, who has been on temporary duty in that institution, has returned to the Binghamton State Hospital.

District Society Meeting.—At the annual meeting of the Eighth District Branch of the Medical Society of the State of New York, held in Dunkirk, September 26 and 27, the following officers were elected: president, Dr. Henry A. Eastman, Jamestown; vice-presidents, Dr. Arthur G. Bennett, Buffalo, and Dr. Carl G. Leo-Wolf, Niagara Falls; secretary, Dr. Carl S. Tompkins, Buffalo, and treasurer, Dr. Charles A. Wall, Buffalo.

State to Teach Hygiene.—The New York State Health Department has completed plans for giving a series of public health lectures in every important city and town in the state. Lectures on the following subjects will be included in the course: tuberculosis, typhoid fever, diphtheria, smallpox and vaccination; rabies, the value of vital statistics; carriers of disease; preventable diseases; the sanitation of a country home; sewage disposal; water filtration, and oral hygiene.

New York City

New Laboratory for Hospital.—A new research laboratory is to be added to the Roosevelt Hospital through the munificence of Mrs. E. H. Harriman. The laboratory will do special work in physiologic chemistry. Its erection will be under the charge of Dr. Lewis R. Morris.

New York University Debt Free.—On October 2 the last $20,000 was paid on a mortgage of $175,000 on the medical school of the New York University, thus leaving the property of the university debt free. The payment of this indebtedness was made possible by the bequest of John S. Kennedy.

Secret Division of Fees.—At the stated meeting of the New York Academy of Medicine, held October 6, it was unanimously carried that the secret division of fees was an evil; if any member of the Academy of Medicine was found guilty of this practice it should furnish sufficient grounds either for a demand for his resignation or to make him liable to expulsion.

Low Death Record.—The number of deaths reported in New York City during the nine months ended September 30 was 58,144, equivalent to a death-rate of 15.56 per 1,000, which compares favorably with the corresponding period of 1910, when the death-rate was 16.27. The average number of deaths for the first nine months of the preceding thirteen years was 18.77 per 1,000. The reduction in the death-rate of infants under 1 year of age was most marked during this period, as 11,733 deaths were reported, or 124.6 per 1,000 as compared with 12,922 deaths, or a rate of 142.3 per 1,000 during the corresponding period of last year. This is equivalent to a reduction of 17.7 per 1,000, or a saving of 1,667 lives of infants during the first 9 months of the year.

Health Day at the Budget Show.—October 5 was health day at the city budget show and much interest was shown in the exhibit of the department of health. In his address on this occasion the health commissioner stated that he was going to ask for $1,564,178 additional for his department next year. It is his intention to establish seventy-three milk depots in the city instead of the fifteen now operated by the department. He also intends to increase the corps of school nurses and to establish six school clinics, to provide additional dentists, and to extend the inspection of school children for contagious diseases and physical defects to all free schools, bringing under the supervision of the department nearly 900,000 children. The interest shown in the budget exhibit has made it seem advisable to install a permanent exhibit open at all times to the public in the new building of the health department at Center and Walker streets.

OHIO

State Health Authorities to Meet.—The Ohio State Board of Health announces that its thirty-first conference with representatives of local boards of health will be held October 19 and 20.

Refuses to Contribute.—The board of Stark County Commissioners, Canton, it is said, has refused to appropriate $7,976, its additional share, necessary for the completion of the tuberculosis hospital at Springfield Lake. Other counties in the compact have agreed to the increased cost, and the

MEDICAL NEWS

five-county tuberculosis hospital board has entered suit to compel the commissioners of Stark County to make this appropriation.

Personal.—Dr. Howard H. Herman, Dayton, has returned from Europe.——Dr. Carl H. Lund, Marietta, formerly a member of the medical staff of the Queen Copper Company, Douglas, Ariz., sailed for Europe, September 28.——Dr. John W. Clark, physician to the state penitentiary, Columbus, will hereafter attend to the duties formerly performed by Dr. A. J. Shoemaker, day physician.——Dr. Robert D. Gibson, Youngstown, is reported to be seriously ill at Mercy Hospital, Canton, as the result of an automobile accident.——Dr. George P. Buffett has been appointed ward physician of Cleveland, vice Dr. Frank W. Hickin, resigned.

Cincinnati

Personal.—Dr. Ernst Gustav Zinke was elected secretary of the American Association of Obstetricians and Gynecologists, at its twenty-fourth annual meeting, September 28.——Dr. and Mrs. Derrick T. Vail and family have returned from Europe.——Dr. Clayton B. Conwell, superintendent of the Ohio State Sanatorium for the Cure and Prevention of Tuberculosis, Mount Vernon, has resigned.

OREGON

New Faculty Members.—Announcement is made by Dr. Simeon E. Josephi, president of the medical department of the University of Oregon, Portland, of the following additions and changes in the faculty of the department: Dr. Franklin C. McLean of Chicago has been made professor of materia medica and pharmacology; Dr. Richard Dillehunt, also of Chicago, is to be lecturer in anatomy. Dr. Oscar T. Roberg, at present professor of anatomy, has been appointed professor of pathology, succeeding Dr. Robert C. Yenney, Portland, who has been made professor of clinical medicine.

Personal.—Dr. Thomas W. Ross, Astoria, has gone to Europe.——Dr. Cortez H. Wheeler has been reappointed health officer of Portland, and Dr. Samuel M. Gellert, assistant. ——Dr. Ferdinand H. Dammasch, assistant health officer of Portland, has gone to Europe.——Dr. Otis C. Hollister, Portland, was run down by an automobile recently and was seriously injured.——Dr. Theodore Fessler, Portland, has been elected great sachem of the Improved Order of Redmen for Oregon, vice Dr. Frank H. Vincil, Rosenburg, great chief of records, who has temporarily filled the position.——Dr. George S. Whiteside, Portland, secretary of the state medical association, was seriously injured in a polo game, September 18.——Dr. A. E. Rockey, Portland, who was operated on eight weeks ago for appendicitis, has recovered and resumed practice.——Dr. J. Chris O'Day, Portland, has returned after a brief vacation in the Cascades.

PENNSYLVANIA

Personal.—Dr. Samuel N. Traver, Steelton, sailed for the Mediterranean, September 30.——Drs. Luther B. Kline, Catawissa, and Milton H. Fussell, Philadelphia, were elected delegates to the American Medical Association by the Medical Society of the State of Pennsylvania at its recent meeting.

Relief for Flood Sufferers.—A letter has been received by The Journal, suggesting that a relief fund be opened for the benefit of the medical men who have suffered damage or destruction of their property by the recent flood at Austin. The secretary of the Medical Society of the State of Pennsylvania states that contributions for this purpose may be sent to Dr. Owen M. Shreve, Erie.

New Work for Assistant Secretary.—At the meeting of the House of Delegates of the Medical Society of the State of Pennsylvania, September 25, an amendment to the by-laws proposed by the committee on permanent location was adopted whereby the assistant secretary is henceforth to carry out all business details incident to the annual sessions of the society, under the advice and direction of the board of trustees.

Philadelphia

Election of Officers.—The new officers of the Medical Society of the Woman's Hospital for 1911-12 are: president, Dr. Florence E. Kraker; vice-president, Dr. Mary Buchanan; secretary, Dr. M. Louise Diez, and treasurer, Dr. Mary Thomas Miller.

Pediatric Joint Meeting in New York.—A joint meeting of the New England Pediatric Society, the Section on Pediatrics of the New York Academy of Medicine and the Philadelphia Pediatric Society, will be held in New York City on November 9. The entire day will be spent in visiting New York hospitals and a scientific meeting will follow at which three papers will be read, one by a member of each society.

Personal.—Dr. Andrew H. Woods, assistant neurologist to the Philadelphia Hospital, has been made vice-president of the Canton Christian College in China.——Dr. Marcus A. Franklin has returned from Europe.——Dr. Joseph Leidy, Jr., will sail for Europe on October 18.——At a meeting of the College of Physicians, October 5, the Alvarenga prize, valued at $180, was awarded to Dr. Francis D. Patterson for his thesis on "Parathyroid Glandules."

Tuberculosis Day Camp to Remain Open.—The results of the Tuberculosis Day Camp on the Delaware River front have been so gratifying that it will be kept open during October and very probably November also. The regime at the camp conforms strictly to that of a sanatorium and suitable cases, namely indigent tuberculosis patients, not requiring absolute rest in bed, may be referred by any physician and remain under his care, but must apply for a card of admission to the Tuberculosis Dispensary of the State Department of Health. The camp is a philanthropic enterprise, the funds for its support having been raised in response to an appeal sent out last spring by Dr. Joseph S. Neff, the honorary director, Mr. Edward B. Smith, treasurer, and Dr. Albert P. Francine, director.

GENERAL

Ohio Valley Physicians to Meet.—The thirteenth annual meeting of the Ohio Valley Medical Association will be held at Evansville, November 8 and 9, under the presidency of Dr. William D. Haines, Cincinnati.

Child-Savers to Meet.—The American Association for the Study and Prevention of Infant Mortality will hold a meeting at Hotel La Salle, Chicago, November 16 to 18, when the results of the recent European tour of investigation of Prof. Charles R. Henderson, of the University of Chicago, will be given.

Hookworm Conference.—The second annual conference on hookworm was held in Nashville, Tenn., September 15 and 16, and Little Rock was decided on as the place for the next conference in 1912. Dr. John A. Ferrell, Kenansville, N. C. was elected president, and Dr. William W. Dinsmore, Decatur, Ala., secretary of the conference.

Railway Surgeons Meet.—At the seventeenth annual meeting of the Big Four Railway Surgeons, held in Indianapolis, October 3, the following officers were elected: president, Dr. John H. Miller, Pana, Ill.; vice-presidents, Drs. William J. Means, Columbus, O.; John C. Sexton, Rushville, Ind., and John C. Epperson, Kansas, Ill.; and secretary-treasurer, Dr. Leonard A. Ensminger, Indianapolis (reelected).

Personal.—Captain John S. Lambie, Jr., M.C., U. S. Army, who was operated on at Johns Hopkins Hospital, September 22, for appendicitis, is reported to be doing well.——Colonel William W. Gray, M.C., U. S. Army, medical supply officer at the Presidio, San Francisco, was thrown from his horse in Golden Gate Park, September 16, fracturing several ribs and sustaining internal injuries.——Dr. Mary Eddy, medical missionary in Turkey, who has established two sanatoriums for consumptives, one near Beirut, and the other on Mount Lebanon, is making a two months' visit and lecture tour of the United States, to endeavor to secure medical supplies and funds to increase the scope of her tuberculosis work in Turkey.

Mississippi Valley Medical Association.—The annual meeting of the Mississippi Valley Medical Association, to be held in Nashville, October 17 to 19, promises to be one of the most interesting from a scientific standpoint of any in the history of the organization. Dr. Joseph D. Bryant, New York City, is to deliver the address on surgery, and Dr. James C. Wilson, Philadelphia, the address on medicine; the presidential address by Dr. Robert H. Babcock, Chicago, will be on "Medical Tendencies." The surgeon general of the U. S. P. H. & M.-H. Service has detailed Assistant Surgeon R. M. Grimm to attend the conference and present a paper on pellagra, and Surgeon William Colby Rucker to describe the work done by the public health service in the stamping out of bubonic plague. There is also to be a symposium on visceroptosis, which will be considered from all standpoints. In this Drs. Cornelius W. Suckling and William Billington of Birmingham, England, will participate. The entertainment provided for the association includes an automobile excursion to the Hermitage, the home of General Jackson, with an address by Dr. John A. Witherspoon, Nashville, Tenn., on "Old Hickory."

Appeal for John Morgan Monument.—A committee consisting of Edgar Fahs Smith, Ph.D., Dr. S. Weir Mitchell, Philadelphia, Sir William Osler, and Drs. William Pepper, Clarence Payne Franklin, and Swithin Chandler, Philadelphia, has been appointed to take up the project of erecting a fitting monument to John Morgan, founder of the first medical school in the United States, and director general of the hospitals and physician-in-chief of the American Army during the revolutionary war. He received his A.B. degree from the University of Pennsylvania in 1757, his M.D. from the University of Edinburgh; and later became L.R.C.P., Lond., and F.R.S. He was one of the founders of the College of Physicians of Philadelphia. In 1765 he persuaded the trustees of the College of Philadelphia to organize the first medical school in America, and in this institution he was a professor for three years. He died Oct. 15, 1789, and is buried in St. Peter's Church, Philadelphia, but no monument marks the place where his remains repose. The committee hopes that the medical profession in general in the United States, and all who, directly or indirectly, have owed anything to medical education, will heartily approve of this movement, to honor the name of John Morgan by an appropriate monument, marking his last resting place.

FOREIGN

Original of Sherlock Holmes Dies.—Dr. Joseph Bell, eminent surgeon of Edinburgh, said to have been the original of Sir Arthur Conan Doyle's famous character, Sherlock Holmes, died at his home in Midlothian, October 4, aged 74. Dr. Bell was formerly president of the Royal Medical Society of Edinburgh and of the Medico-Chirurgical Society, consulting surgeon to the Royal Infirmary, and Royal Hospital for Sick Children; demonstrator of anatomy in the university, and was for twenty-three years editor of the *Edinburgh Medical Journal*. He was an enthusiast in the study of mysterious crimes and gave to his student Conan Doyle his first insight into the wonderful possibilities of arriving at facts by the so-called deductive method.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Sept. 23, 1911.

The National Insurance Bill and the Question of Friendly Society Control

The national insurance bill is still in committee stage in the House of Commons. The passage of amendments of its medical part, rendering it more acceptable to the profession, has been described in previous letters to THE JOURNAL, but the struggle is by no means over. The British Medical Association is continuing to organize the profession to fight injurious proposals. The representative body of the association has determined to postpone decision as to the attitude the profession should be recommended to take as regards consenting to work under the bill, until the proceedings in the committee of the House of Commons have been completed, and the bill as amended can be considered as a whole. In the meantime, the collective effect of the amendments already passed is being carefully examined and a report on the whole subject will be issued to the profession. Since the adjournment of parliament, the position has become acutely critical with respect to two of the most important principles for which the profession has been contending, namely, the free choice of physicians by patient and the freedom from friendly society control, and it is considered urgent that the profession should be put on its guard. The passing, by an overwhelming majority, of the amendment by which control of the administration of medical benefit was placed solely in the hands of local health committees, and the passing of the chancellor of the exchequer's amendment providing for free choice of doctor by patient, were received by the public as notable victories for the profession. But the British Medical Association warns the profession not to overvalue such success as has been gained since strenuous efforts are necessary to make the position secure. At conferences of friendly societies held after the conclusion of the committee proceedings in the House of Commons, resolutions hostile to the professional position have been carried and the desire has been manifested by the societies to retain control of what they call "their own doctors." Certain societies are endeavoring to rally to their support the physicians who hold appointments from them and to separate them from the general mass of their professional brethren. Attempts are being made to induce them to sign declarations in favor of the present system of appointment of medical officers by clubs, as against giving each member the choice of his own doctor. The British Medical Association has issued a circular to the whole profession asking physicians to appreciate the true bearings of the matter before signing to support the association by every possible means in preventing the perpetuation and extension, in connection with the national insurance bill, of the worst abuses of contract practice.

Hygienic Progress in Ireland

The Women's National Health Association of Ireland has done remarkable work in educating the people in the elements of hygiene and has played a great part in the antituberculosis movement in that country. It has taught the people to keep their windows open and has organized exhibitions and lectures all over the country. So ingenious have been some of its methods that they have been copied in England. The success of this movement is largely due to the indefatigable efforts of the president and the countess of Aberdeen, the Vicereine of Ireland. To mark their appreciation of her work the recent Congress of the Royal Institute of Public Health, held in Dublin, appointed her president—a position never before held by a woman.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Sept. 22, 1911.

Assistance to Physicians' Families

The Oeuvre Parisienne de Secours immédiat et d'assistance à la famille médicale (THE JOURNAL, Feb. 12, 1910, p. 548) has been organized to give aid to all of the members of any physician's family in misfortune. The membership fee has been reduced to one franc, and all the members of physicians' families are invited to cooperate. Non-medical persons who wish to show recognition to the medical profession are also invited to take part in the work, but the direction of the association is to be exclusively in the hands of physicians.

A Meeting for the Study of Abnormal Childhood

At the time of the twelfth Congrès français de médecine, which will be held at Lyons, October 22 to 25, a special independent meeting under its auspices will be held under the presidency of Dr. Beauvisage, professor in the Faculté de médecine de Lyon and president of the Oeuvre de l'Enfance anormale, to study the subject of abnormal childhood. All persons interested in the subject—professors, physicians, psychologists, instructors—may take part. No fee is demanded, the expense of the meeting being borne by the Congrès de médecine. The papers read will be published in medical, psychological and pedagogical journals as may seem most appropriate. Visits will be arranged to the psychopedagogical laboratories of the Oeuvre de l'Enfance anormale and to the medico-pedagogical laboratories of Villerubanne and Meyzieu.

Death of a Centenarian Physician

Dr. J. C. Boulle, whose centennial was celebrated March 3, 1910, has just died at Saint-Valérien in his one hundred and second year.

The High Cost of Living and the Public Charities

The municipality of Paris is greatly concerned over the increase in the cost of living, due to the epidemic of foot-and-mouth disease and to the unusual drought of the past summer. M. Felix Roussel, president of the municipal council, has just sent a letter to the presidents of the syndicats of the various food-supply industries expressing the desire to cooperate with them in lessening the expenses of living during the coming winter. The effect of this increase in the cost of foodstuffs is shown already in the budget of the Public Charities by a supplementary expenditure of about $190,000 (995,000 francs) for food. M. Mesureur, director of the Public Charities, has announced that when the municipal council meets again, he will be obliged to ask for additional funds with which to balance his budget.

Has a Physician the Right to Inject an Unauthorized Serum?

Under this title I described the prosecution of Dr. Lorot of Paris (THE JOURNAL, May 6, 1911, p. 1340) who injected his patients with a serum of his own make called "toxyline" which had not been legally recognized. This doctor was released in the first instance on the plea that the injections were a part of the treatment. The court of appeals of Paris confirmed the decision of the lower court, but the *cour de cassation*, to which the case was carried on appeal, has declared that a physician has no right whatever to make professional use of an unauthorized serum.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Sept. 21, 1911.

Personal

Professor Friedrich of Marburg has accepted the position of director of the surgical clinic at Königsberg.

Professor Veit of Halle has received the honorary title of doctor from St. Andrew's University, Glasgow, Scotland, on the occasion of the quincentenary of that institution.

A Medical Director for the Prussian Medical Bureau

It is a circumstance of unusual significance that the person who has hitherto occupied the office of director of the medical bureau having resigned on account of advanced age, Dr. Kirchner has been appointed in his stead. In this way the long-standing custom of appointing a lawyer as chief of the medical bureau, as of most departments, has been departed from and the wish of the Prussian medical profession, often expressed, to see a physician at the head of the medical bureau is fulfilled. This appointment was facilitated, or rather only made possible by the fact, which I have previously reported, that the medical bureau has been transferred from the department of education to that of the interior. In the department of education there was no inclination, on account of long custom and for other reasons, to make such a change.

Surely the prestige of the medical profession of Prussia will be enhanced by this appointment and there can be no doubt that our interests will be attended to with greater intelligence and cordiality by a man who has come from our own ranks than by a lawyer. Privy Councillor Kirchner is the oldest of the members of the bureau and for this reason was the only one considered in the appointment. But he has rendered good service in public health matters, particularly in framing the contagious diseases law. Kirchner is a pupil of Robert Koch and stood in intimate personal relations with him.

International Congress on Infant Protection

In the second week of September, the third international congress for protection of infants was held here. As the empress had assumed the protectorate and the imperial officials took a great interest in its organization (the president of the imperial health office was at the head of the committee on organization), it is easily understood that the affair came off in grand style. There were quite 1,000 participants present, among them men and women from all countries. The presidency as in all the international congresses of a philanthropic nature that have recently occurred in Berlin was filled by a prince, in this case the hereditary prince of Hohenlohe-Langenberg, formerly undersecretary in the imperial colonial office. The congress was opened September 11 in the presence of the empress. The proceedings were carried on in several sections which were under the direction of prominent investigators.

INFANT PEDIATRICS IN THE MEDICAL CURRICULUM

In the first section the chairman, Professor Heubner, delivered an address on the physiology and pathology of infancy in university instruction. He showed as the result of a question blank sent out that this branch is insufficiently provided for in the medical curriculum in most countries. He concluded with an appeal to the representatives of the various nations to direct a memorial to their governments, like the petition presented by the German pediatrists, asking for better facilities for instruction in this line. In the discussion of this theme Professor Marfan of Paris called for obligatory instruction to medical students in the hygiene and diseases of infancy in order to reduce infant mortality. Every children's clinic should have a special department for infants, with an infant consultation department for healthy and sick infants, which gives opportunity to receive the infants with the mothers. All students ought to attend this department for at least two months and pass a special examination in the care of infants. For the head of a crèche or a station for the care of infants, only such physicians should be selected as have had special experience and are able to show a certificate for the same.

Privat-docent Dr. Berend of Copenhagen expressed the desire that either the physiology and pathology of infancy be taught in a special elective, or that in the compulsory pediatrics course these subjects, as well as the hygiene of infants, should receive special attention. As the physiology and pathology of metabolism have special applications to the modern treatment of infants, it would be very appropriate to teach these subjects as an immediate continuation of the courses in physiology and pathology. Professor Koplik of New York called attention to the activity of American physicians during the last twenty-five years in furthering infant hygiene. He expressed a wish for a separation of the study of infancy from that of later childhood, the play and the school age, and the establishment of separate chairs for the hygiene of the child and for the study of children's diseases. Professor Medin of Stockholm gave a historical review of instruction in pediatrics in Sweden, where already in 1845 a professorship for pediatrics was established, and in 1850 a special children's clinic was founded in Stockholm. The number of students taking the compulsory course in the pediatric clinic ought not to exceed twenty-five, in order to promote practical training as much as possible.

TRAINING IN THE CARE OF INFANTS

The education of the nursing force for institutions, families and communities brought out a greater discussion. Professor Feer of Zurich required for women who are willing to devote themselves to the profession of infant nursing, in addition to good physical health, a specially good education and intelligence, which must be in many respects greater than that required for other nurses, as the infant cannot express its sensations. The duration of instruction should be at least one year in a sanatorium or hospital for infants, and the subjects for instruction should be anatomy, physiology, nutrition, hygiene and social care, and they should be taught partly theoretically and partly practically at the bedside of the healthy and the sick infant by a physician and by the head nurse. It is desirable that a four to six weeks' course should be given in a lying-in hospital in order that the nurse may also be able to care for the mothers. Pupils younger than twenty years should not be received, as they are not capable of the efforts of the instruction period. After a successful period of instruction the pupil should receive the title of graduate trained infant nurse (*diplomierte Säuglingspflegerin.*)

The well-known pediatrician, Privy Councillor Taube (who has established model infant hygiene in Leipsic), reported on communal infant hygiene. He called attention to the importance of a municipal control of the construction and character of dwellings, as, especially in the smaller dwellings, the condition of infants is endangered by the overheating as a result of insufficient ventilation. Female officials experienced in the care of infants should be installed as inspectors of dwellings. Municipal lying-in homes for the reception of needy women and girls should be erected and breast-feeding should be encouraged by municipal arrangements (nursing premiums, stations for the care of infants and nursing rooms). A better training in the care of infants should be required of the midwives licensed by the municipality. Of especial importance is a law for providing a cheap milk that is unobjectionable on the ground of health. Illegitimate children need special oversight through the establishment of municipal general guardianship. The speaker described in detail the conditions in Leipsic, where a municipal pediatrician stood at the head of the entire public infant welfare system. Nathan Straus of New York, an official delegate from the United States, spoke of the progress which had been made in the care of infants in America, in connection with which he went extensively into the favorable effect of pasteurized milk, for the introduction of which he himself, as is well known, has spent millions.

MOTHERHOOD INSURANCE

Dr. Bruno, the president of the propaganda society for insurance of motherhood in Heidelberg, gave an address on this important subject. He held that the heavy expenses of motherhood insurance necessitated its support by the state more than any other branch of insurance. There can be no protection of infants without a sufficient care for the mother, as in Germany in a year 1,500,000 women were found to be without sufficient protection before, during and after birth. These efforts for the protection of motherhood should be directed toward an imperial legal regulation, similar to the legal conditions already provided, for the protection of lying-in women in the wage-earning classes and for an amplification for the same. As indispensable requirements for state-aided obligatory insurance, the following are important: compensation for wages, to the extent of a full day's wage, for ten weeks, four weeks before and six weeks after delivery; compensation for the cost of the midwife, physician, medicines and for necessary care at home or in the hospital, and nursing premiums or assistance in the nutrition of the infant. Inasmuch as this imperial regulation of the matter is not probable in the immediate future, the method of self-help and of private insurance must be adopted. This can be made possible by propaganda societies for motherhood insurance, which collect the means for founding motherhood clubs of which the chief function is the encouragement of breast feeding. Private motherhood societies make it possible for all women without reference to trade, religion or social status, whose income is under $760 (3,000 marks) to secure proper assistance at the time of confinement by the payment of small sums, and thus to preserve the health of the mother and child. The propaganda society provides suitable care in the last four weeks of pregnancy, and in return for a small payment provides in case of need for the care of the house and for the delivery of the insured. The private motherhood insurance aims at purely economic and hygienic ends, and refrains from one-sided ethical, political or sectarian activity.

STATISTICS

Dr. Falkenburg in the section for statistics made an address on the morbidity, mortality and birth-rate in different countries, illustrated by numerous graphic representations. While the birth-rate has fallen very markedly in all European countries with the exception of Roumania, Bulgaria and Russia, the reduction in the general mortality is notably greater in all countries with the exception of Ireland and France, but the infant mortality remains relatively high. The German nation has taken an unfavorable position among the European states. So far as sufficient statistics on morbidity are available, it must be said that disturbances of digestion are the chief cause of the diseases and mortality of infants. In the discussion, Professor von Mayr of Munich asserted that the theory of the survival of the fittest (*Auslesetheorie*) with reference to infant mortality must be looked on as obsolete. The connection between the birth-rate and mortality is to be assumed, as indicated by the fact that the mortality rate increases with the birth-rate. This connection was also emphasized by Szana of Budapest. Even the very active efforts for hygiene have not been able to do away with this parallelism. Kuczynski of Schöneberg asserted that it was extremely difficult to demonstrate such a parallelism, as well as to refute it.

OTHER TOPICS DISCUSSED

I cannot enter into the consideration of the other addresses. On the third day of the congress a consideration of existing arrangements for the care and protection of infants occurred in the various groups. At the final session the general secretary, Professor Keller, laid before the congress the suggestions made in the various sections; thus the assistance of states and societies in instruction of wider circles of the population in the protection and care of infants was advocated; further, the representatives of various countries were requested to urge their governments to provide new institutions for instruction in the university. It was further advocated to collect uniform international statistics on the entire subject of infancy. The necessity of the development of international relations of guardianship and legal protection in the care of infants in general (more protection than previously for illegitimate children, etc.) was strongly emphasized. In connection with this, the establishment of an international information bureau for all legal questions in regard to the protection of children was proposed. The next congress will occur four years hence at The Hague in Holland. Eight years hence it will presumably meet at London.

Marriages

James D. Dodrill, M.D., Webster Springs, W. Va., to Miss Mabel I. Harford of Richwood, W. Va., at Charleston, W. Va., September 26.

Lee J. Ernstberger, M.D., Oklahoma City, Okla., to Miss Lasetta S. Smodell of Louisville, Ky., at Vincennes, Ind., August 9.

John H. Steenbergen, M.D., Huntingdon, W. Va., to Miss Jessie Johnson Fitch at Fairmont, W. Va., September 20.

James William Huffman, M.D., Poland, Ind., to Miss Stella Kinland of Bismarck, Mo., at St. Louis, September 30.

Claude Jackson Martin, M.D., Clarksburg, W. Va., to Miss Edith Claire Riall of Baltimore, September 13.

Edwin W. Patterson, M.R.C., U. S. Army, to Miss Mary Laura Kriedler of Georgetown, D. C., September 6.

William Henry Best, M.D., Brooklyn, N. Y., to Miss Mary Anderson Kinsley of Philadelphia, September 29.

Edward Jonathan Klopp, M.D., Philadelphia, to Miss Emma Rille of Johnstown, Pa., September 27.

John Ross Beiter, M.D., to Miss Euretta Pamelia Kingsbury, both of Norwalk, O., September 30.

Edwin Janss, M.D., Los Angeles, Cal., to Miss Florence Cluff of San Francisco, September 12.

Henry James Reynolds, M.D., Chicago, to Mrs. Caroline W. Reid of Ottawa, Ill., October 4.

John Arthur Turner, M.D., Waukegan, Ill., to Miss Hazel Irene Kline of Chicago, October 5.

Deaths

Henry Gibbons, Jr., M.D., for many years dean of Cooper Medical College, San Francisco; died at his home, September 27, from senile debility, aged 71. He was born in Wilmington, Del., the son of Dr. Henry Gibbons, and was graduated from the Medical Department of the University of the Pacific, San Francisco, in 1863; for two years thereafter he served as acting assistant surgeon, U. S. Army at the General Hospital, Washington; he returned to San Francisco in 1870, became dean and professor of materia medica in Cooper Medical College; and in 1882 was made professor of obstetrics, gynecology and diseases of children; from 1870 to 1873 he was health officer of San Francisco; a member of the board of health from 1880 to 1883, and of the board of education from 1889 to 1890; he was a member of the American Medical Association; a charter member and once president of the Medical Society of the state of California, and the San Francisco Medical Society. Dr. Gibbons was one of the most prominent and progressive men on the Pacific Coast, and a practitioner and administrative officer of marked ability.

Robert Edward Doran, M.D. Albany (N. Y.) Medical College, 1893; a member of the American Medical Association and American Medico-Psychological Association; assistant physician at the Craig Colony for Epileptics, Sonyea, N. Y. from 1901 to 1903; first assistant physician in the Willard State Hospital from 1895 to 1901, and later superintendent of that institution; appointed state medical inspector for the lunacy commission in May, 1910; and a year later appointed superintendent of the Long Island State Hospital; an alienist of great merit and an administrative officer of ability, efficiency and energy; died at his home in Brooklyn, September 23, from heart disease complicated by laryngitis, aged 40.

Arthur L. Osborn, M.D. Western Reserve University, Cleveland, 1873; a member of the Ohio State Medical Association and National Association of Railway Surgeons, and once president of the Huron County Medical Society; a veteran of the Civil War; for twenty years major-surgeon of the Sixteenth Infantry N. G. Ohio, and surgeon of the Sixth N. G. Ohio during the Spanish-American War; a member of the board of U. S. pension examining surgeons of Norwalk; local surgeon for the New York Central Lines and Wheeling and Lake Erie Railroad; died at his home in Norwalk, September 18, aged 64.

Zane Bland Taylor, M.D. Medico-Chirurgical College of Philadelphia, 1893; a member of the Medical Society of the State of Pennsylvania; formerly physician to the Huntingdon County Home, Shirleysburg; for many years a member, and at the time of his death president, of the school board of Orbisonia; formerly a member of the council and burgess; died at his home, September 18, aged 61.

Merton Oliver Edwards, M.D. Medical School of Brunswick, 1881; a member of the Maine Medical Association; from 1906 to 1908 a member of the state legislature and in 1910 state senator; postmaster of Monmouth for four years; for many years a member of the staff of St. Mary's General Hospital; died at his home in Lewiston, September 22, from nephritis, aged 59.

George R. Vernon, M.D. University of Pennsylvania, Philadelphia, 1875; for several years a lecturer at his alma mater; president of the Upper Darby (Pa.) Board of Health, and formerly president of the Clifton Heights Board of Health and a member of the school board; died at his home in Clifton Heights, September 16, from cerebral hemorrhage, aged 64.

Charles Edward Denhard, M.D. New York University, New York City, 1874; a member of the Medical Society of the State of New York and New York Academy of Medicine; a member of the staff of Bellevue, Charity and Park hospitals, and one of the founders of the German Poliklinik; died at his home in New York City, September 22, aged 71.

John Archibald Wilder, M.D. Albany (N. Y.) Medical College, 1895; of Denver; a member of the Colorado State Medical Society, American Climatological Association and National Association for the Study and Prevention of Tuberculosis; professor of pathology of the University of Denver, and pathologist to St. Luke's and St. Joseph's hospitals; for two years assistant at the Saranac Lake Sanatorium; died at the home of his mother at Hoosick Falls, N. Y., September 14, from pulmonary tuberculosis, from which he had suffered for fifteen years, aged 40.

Walter H. Peters, M.D. Medical College of Ohio, Cincinnati, 1886; a member of the American Medical Association, and for twenty years a specialist on diseases of the eye, ear, nose and throat, of Lafayette, Ind.; an expert analytical chemist and toxicologist; a member of the staff of St. Elizabeth's Hospital; died at his home in Lafayette, September 28, from cancer, aged 52.

George Titus Howland, M.D. Bellevue Hospital Medical College, 1886; formerly health officer of Washington, D. C., and a leader in the crusade for the improvement of sanitary conditions in dairies; for the last nine years a practitioner of Norwich, Conn.; died in a hospital in Boston, September 24, a day after an operation for appendicitis, aged 50.

Alva Leroy Paul, M.D. Long Island College Hospital, Brooklyn, 1875; of Ottawa, O.; a member of the Ohio State Medical Association; local surgeon for the Detroit, Toledo and Ironton Railroad, and a member of the local board of pension examining surgeons; died at a hospital in Cleveland, September 18, from heart disease, aged 63.

Samuel S. Kilvington, M.D. University of Buffalo, N. Y., 1883; a member of the Minnesota State Medical Association; formerly health commissioner of Minneapolis; a veteran of the Riel Rebellion; died at his home in Minnetoka Mills, Minn., September 25, from cerebral hemorrhage, aged 69.

James Alfred Pettit, M.D. University of Virginia, Charlottesville, 1896; of Roseland, Va.; a member of the governor's staff; was shot and instantly killed in front of a hotel in Lovingston, Va., September 25, aged 45. The cause of the shooting is said to have been an ancient grudge.

Joseph Westerfield Dodds, M.D. Miami Medical College, Cincinnati, 1888; a member of the Ohio State Medical Association, and for many years a district physician of Cincinnati; died at the home of his father-in-law in Hamilton, O., September 25, from nephritis, aged 51.

John J. Cannan, M.D. College of Physicians and Surgeons, Baltimore, 1892; a member of the Medical Society of the State of Pennsylvania, attending physician to the Bradford Hospital; died at his home in that city, September 23, from pneumonia, aged 43.

Uriah Davis Thomas, M.D. Botanico-Medical College of Ohio, Cincinnati, 1875; a charter member of the Minneapolis Writers' League and a poet of more than local reputation; died at his home in Minneapolis, September 16, from senile debility, aged 83.

Absalom Winfield Jones, M.D. University of Michigan, Ann Arbor, Mich., 1878; a member of the American Medical Association, and Columbus Academy of Medicine; died suddenly at his home in Westerville, O., September 21, from heart disease, aged 64.

Isaac M. Witmer, M.D. Jefferson Medical College, 1881; a member of the Lancaster County (Pa.) Medical Society, and coroner of the county for nearly thirteen years; died at his home in Lancaster, September 22, from cerebral hemorrhage, aged 60.

Lewis Eugene Beauharnais Sanborn, M.D. College of Physicians and Surgeons, New York City, 1867; a veteran of the Civil War; deputy health officer of New York City from 1879 to 1908; died at his home in Machiasburg, Me., September 24, aged 73.

Almon Ward Hill, M.D. Boston University School of Medicine, 1887; of Concord, N. H.; a member of the New Hampshire legislature in 1903 and 1905; died in the Homeopathic Hospital, Boston, September 17, after a surgical operation, aged 47.

John J. Harlan, M.D. University of Alabama, Mobile, 1872; probate judge of Tallapoosa County, Ala., from 1898 to 1904, and later a banker of Stamford, Tex.; died at the home of his son in Alexander City, Ala., August 26, aged 64.

James M. Davis, M.D. University of Louisville, Ky., 1871; secretary of the board of health of Greenville, Ind., and a member of the Floyd County Medical Association; died at his home, June 14, from cerebral hemorrhage, aged 78.

Alfred E. Sherwood, M.D. University of Pennsylvania, Pa., 1873; of Union City, Pa.; local surgeon to the Pennsylvania System; and member of the board of health; consulting physician to the Corry Hospital; died at his home, September 24, aged 62.

Napoleon B. Nevitt, M.D. University of Maryland, Baltimore, 1857; a member of the Medical Society of Virginia; surgeon in the Confederate service during the Civil War; died at his home in Accotink, September 25, aged 81.

David H. Davis, M.D. University of Vermont, Burlington, 1891; a member of the Medical Society of the State of New York; health officer of East Worcester; died at the home of his daughter in Schenevus, September 23, aged 54.

Luther M. Zimmerman, M.D. University of Maryland, Baltimore, 1864; surgeon in the Federal service during the Civil War; for several years postmaster of Myersville, Md.; died at his home in Hagerstown, September 13, aged 71.

Frederick G. Trowbridge, M.D. University of Buffalo, N. Y., 1883; a member of the Jefferson County (N. Y.) Medical Society; died at his home in Watertown, September 20, from cerebral hemorrhage, aged 53.

William T. Eikner, M.D. Milwaukee Medical College, 1901; proprietor of a hospital and sanitarium in Mason City, Nev.; was shot and killed in an altercation in a hotel in Mason City, September 19.

J. B. Humphrey (license, West Virginia, 1881); for many years a practitioner of Harrison County; died at the home of his daughter in Wilsonburg, September 7, from senile debility, aged 80.

Ada Benton Morgan, M.D. Hahnemann Medical College of Chicago, 1894; died at her home in Ridge, a suburb of Chicago, September 23, three days after an operation for appendicitis, aged 52.

William Acrill Fort (license, South Carolina, years of practice), a Confederate veteran and a practitioner since 1870; died at his home in Gaffney, September 21, from heart disease, aged 69.

Joseph G. Hodgkinson, M.D. St. Paul (Minn.) Medical College, 1886; of South St. Paul; died at Luther Hospital, St. Paul, September 16, from arteriosclerosis, aged 66.

Nelson W. Shugert, M.D. College of Physicians and Surgeons, Baltimore, 1885; died at his home in Tidioute, Pa., September 12, from heart disease, aged 51.

Nettie G. Gray, M.D. State University of Iowa, College of Homeopathic Medicine, Iowa City, 1896; died at her home in San Antonio, Tex., September 15, aged 45.

G. G. Hubbard, M.D. State University of Iowa, Iowa City, 1865; died at his home in Munfordville, Ky., September 23, from carcinoma of the stomach, aged 77.

Harvey L. Hensley, M.D. Physio-Medical College of Indiana, Indianapolis, 1907; died at his home in Oakwood, Ill., September 19, from typhoid fever, aged 37.

Sophus A. E. Johnson, M.D. Chicago Homeopathic Medical College, 1893; died at his home in St. Louis, September 17, from heart disease, aged 54.

G. W. Rofelty, M.D. Medical College of Ohio, Cincinnati, 1876; died at his home in Los Angeles, Cal., Dec. 21, 1910, from valvular heart disease.

Alexander M. Smoot, M.D. University of Tennessee, Nashville, 1889; died at his home in Knoxville, Tenn., August 30, from nephritis, aged 59.

Louis W. Heydrich, M.D. Western Reserve University, Cleveland, 1885; of Toledo; died in Erlangen, Germany, September 15, aged 51.

Austin Shuey, M.D. Eclectic Medical Institute, Cincinnati, 1890; died at his home in Prospect, O., June 30, from acute gastritis, aged 51.

F. A. Brickley, M.D. St. Louis College of Physicians and Surgeons, 1886; died at his home in De Soto, Mo., September 14, aged 80.

John F. James, M.D. Lincoln (Neb.) Medical College, of York, Neb.; died at a hospital in Lincoln, September 20, aged 40.

Edward D. Crispell, M.D. Eclectic Medical Institute, Cincinnati, 1866; died at his home in Leadville, Colo., September 12.

Charles C. Cage, M.D. Tulane University of Louisiana, New Orleans, 1861; died at his home in Monroe, La., aged 86.

Minot G. Jenison, M.D. Howard University, Washington, D. C., 1882; died recently at his home in Hollywood, Cal.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession.

THE PHYSIOLOGIC STANDARDIZATION OF ERGOT

Reference was made editorially in The Journal October 7 to a study of the question of the physiologic standardization of ergot by Edmunds and Hale, in which they review the various methods employed in the standardization of the drug and give the results of their own work with proprietary and pharmacopeial preparations of various manufacturers.

Their report is a highly interesting document and it is presented here in order that physicians may know how much reliance is to be placed in the preparations of manufacturers and what serious discrepancies exist between the claims made for permanency, strength, etc., of their special products and the facts as brought out by experiment. A summary of their conclusions as to the method of standardization is also given.

"From the standpoint of both practicing physician and patient an interesting part of this research relates to the activity of various ergot preparations as they are obtained on the open market. Similar work has been reported on by various writers from time to time, but even their results show some interesting discrepancies which seem to be dependent partially at least on the special method of assay employed. The examination of these specimens by us was not the prime object of the work, but only an incidental part, as it was mainly concerned with an examination of the different methods of assay in general use.

"Dixon, using the blood-pressure method, reported that among six samples of ergot he found two moderately active, two very feeble, and two worthless. Edmunds and Roth, by means of the cat's uterus, found that in a series of fluid extracts six were of nearly the same activity, one about half strength and one apparently inactive. Kehrer reports on about twenty-five ergot preparations which he assayed in the course of his investigations on the isolated uterus. Goodall, in his work already referred to, reports on the examination of a large number of ergot preparations. Among these he found that almost 60 per cent. showed themselves to be very poor when judged by the blood-pressure standard, but that only 34 per cent. failed to cause satisfactory contractions of the uterus. Wood and Hofer seem to have had the most discouraging experiences with fluid extracts, as they found among eleven preparations only two which came up to their standard of activity as determined by the effect on the blood-pressure.

"Our own results obtained in this research showed that the six fluid extracts which were obtained in the open market possessed considerable variation in activity, some being four times as strong as others, as is seen in the following table. Only one of the entire number approached in strength the fluid extracts made from the Spanish and Russian ergot.

"Relative activity of preparations of ergot examined. Results of July and December assays.

Spanish ergot	5*
Cornutol (H. K. Mulford Co.)	5
Russian ergot	6
Nelson, Baker & Co., fluid extract	6
Ergone (Parke, Davis & Co.) Sample 2	8
Wyeth purified ergot	8
Parke, Davis & Co., sample 2, fluid extract	9
Sharpe & Dohme, fluid extract	10
Ray Chemical Co., fluid extract	11
Ergotole (Sharpe & Dohme)	15
Parke, Davis & Co., sample 1, fluid extract	20
H. K. Mulford, fluid extract	20
Ergone (Parke, Davis & Co.), sample 1	?

"As it is so generally known that the fluid extracts of ergot deteriorate quite rapidly, the fact that some preparations on the market which are made according to the pharmacopeia may be found very weak need not be considered a reflection on the manufacturer, as it may be merely the result of aging or other causes. It would seem very desirable, however, on account of this deterioration with age that bottles of ergot should be stamped with the date of the manufacture.

"With preparations of ergot other than those made according to pharmacopeial directions, the condition is quite different. These are prepared according to some private formula and are represented as being superior to the official preparations, either on account of greater strength, permanence, or some other suggested superiority. With these it is therefore of importance to see whether they possess any advantage over the cheaper official preparations and whether they actually conform to the standard claimed.

PREPARATIONS EXAMINED

"Cornutol appears at the head of these non-pharmacopeial preparations, and our sample seemed to be equal in activity to the Spanish ergot fluid extract. This preparation is made by H. K. Mulford Co., Philadelphia, from 'selected Spanish ergot and contains what is active separated from inert matter,' and is said to be assayed so as to contain 0.15 gram cornutin in 100 c.c. The specimen we examined was a thick greenish-brown fluid with a very unpleasant odor which suggested putrefaction. The most interesting point in connection with our sample of cornutol was that while it was found to be equally active with a good fluid extract, it should have been much more potent as it is claimed to be two and a half times as strong, each minim according to the label being equal to 2½ grains of ergot. We must conclude, therefore, that it, like the official preparations, had undergone deterioration.

"The 'ergot purified' made by John Wyeth & Bro., Philadelphia, made up with 25 per cent. alcohol, was a clear Burgundy red, and possessed the characteristic ergot odor. It required a dose about 50 per cent. larger than a good fluid extract in order to produce equal effects, and yet according to the makers it is a 'concentrated purified solution of active constituents of ergot, physiologically tested and standardized.' The method of assaying is not stated, but if we can judge by the copy of tracing enclosed, the preparation is tested by the blood-pressure method. Here again, as with cornutol, the only explanation we have to offer as to the difference in strength between that indicated on the label and what we found on examination is that it must have deteriorated very considerably.

"Still more interesting is 'ergotole,' made by Sharpe & Dohme, Baltimore. One specimen was found to be about one-third as strong as our Spanish fluid extract, while according to the makers it should be two and one-half times stronger, as each cubic centimeter is said to be equal to 2.5 grams select Spanish ergot. Our first thought would be that this remarkable discrepancy could be explained as in the other cases by the effect of age on the preparation, but this is evidently a mistake, as the firm's literature positively states that ergotole is a 'permanent solution,' that 'it does not change with age,' and is 'therefore always reliable.' Confronted by these statements, we are entirely at a loss for an explanation and must leave the subject with the mere statement of facts. Further, this preparation is assayed by the cornutine of Keller which the makers have found to be a 'trustworthy guide as to the therapeutic strength of the drug.' The evidence in regard to this relation we discussed at another point. A statement which occurs in the literature of the firm is that ergotole contains all the active principles of ergot in an 'unchanged condition' and 'in their natural combination.' The question might be raised as to whether this is not rather a strong statement and one which would be hard to prove.

"'Ergone,' Parke, Davis & Co., appears in both our series of assays, as the results obtained with it in July were so unfavorable that we decided to examine it again in December. According to the manufacturers, it is of the same strength as the official fluid extract, is non-alcoholic, sterile, active, permanent, and physiologically tested and standardized. The December samples we examined compared very favorably with the fluid extract made by the same firm whether the comparison was made on the cock's comb or the uterus. It apparently was slightly stronger, but not over about 10 per cent. However, both were much weaker than the Spanish fluid extract, being not much more than half as active. If the fluid extract had deteriorated (as might be expected), it would look as if ergone must have deteriorated also, as they are both standardized. But how can ergone deteriorate, being a permanent solution? Either they were both weak to start on, or they have deteriorated. The latter view probably is correct if we may judge by the findings in the samples used in the July series of assays. This specimen when tested on the cock's comb produced no cyanosis whatever, even when it was given in 4 c.c. and 6 c.c. doses. An extract from our records on one cock will show very plainly its lack of activity.

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* The numbers represent the amounts of the various ergot preparations that were required to produce a given degree of cyanosis in a cock's comb. For example: While five parts of Spanish ergot produced the required degree of cyanosis, it took ten parts of Sharpe & Dohme's fluid extract and twenty parts of Parke, Davis & Co.'s fluid extract to produce the same effect.—Ed.

"Cock: Weight, 1,285 grams. Aug. 26, 1910. Injected 1 c.c. Spanish fluid extract. Distinct cyanosis. Same intensity as 3 c.c. ergotole injected to-day. Aug. 29, 1910. Injected 6 c.c. ergone. No action. Aug. 31, 1910. Injected 1.5 c.c. Spanish fluid extract. Distinct cyanosis.

"This protocol shows the cock was reacting well to other preparations, so that the failure to react must have been due to the ergone. This same specimen of ergone when administered in 1 c.c. doses to a cat called forth uterine contractions which were not as strong as were being produced by 0.1 c.c. doses of Spanish fluid extract. Clearly then the ergone was nearly inactive and must have deteriorated greatly.

"An interesting point in connection with the assay of ergone is the effect it produced on the blood-pressure. By reference to the tables [for which the *Bulletin* must be consulted.—Ed.] it will be seen that in both series it is very weak when measured by this standard. This is especially noticeable in the sample used in December, which was quite active when tested *on the cock's comb and uterus, yet it raised the blood-pressure* only 9 per cent., in comparison with the 38 per cent. increase produced by Parke, Davis & Co.'s fluid extract. This lack of activity on the blood-pressure is probably explained by a relatively small quantity of putrefactive amines, as ergone is said to be made under aseptic conditions.

"Chemical methods for the assay of ergot show little relation to biologic methods, and the latter should be used as a means of insuring those who require this drug a remedy both potent and of uniform strength.

"For this purpose, the method using the cock's comb is recommended on practical grounds rather than that using the uterus.

"Ergot preparations should be marked with the date of manufacture.

"The fluid extracts of ergot examined varied in strength greatly, some being only about one-fourth as strong as a preparation freshly made from Spanish ergot. Non-pharmacopeial preparations showed even greater discrepancies between the strengths claimed and those actually found.

"Until more reliable methods of manufacture are found makers of ergot preparations would be wise to exclude the phrase, 'ergot in permanent solution,' from their advertising literature. They may thus avoid misbranding."

QUININ TANNATE

Report of the Council on Pharmacy and Chemistry

The following report was adopted by the Council and its publication authorized. In accordance with the recommendation, the description of quinin tannate, appearing in New and Nonofficial Remedies department of this issue, requires a quinin content of not less than 29 per cent. and lists, as brands which comply with this standard, the products sold by the Mallinckrodt Chemical Works, the New York Quinin and Chemical Works and the Powers-Weightman-Rosengarten Company.

W. A. Puckner, Secretary.

Quinin tannate, being almost insoluble in water, is practically tasteless and therefore adapted for administration to children in the form of mixtures (suspensions). Although the absorption of this quinin salt is claimed to be somewhat uncertain and its tannin content is an objection, the Council decided to describe it in New and Nonofficial Remedies because of its general availability and its rather general recognition. But in view of the common unreliability of little used substances, the actual description of quinin tannate in New and Nonofficial Remedies was postponed until the market supply could be examined and standards for the preparation formulated.

An exhaustive and critical search of the literature, as well as a chemical investigation of this substance, has been made in the Association's chemical laboratory. The results of this investigation were reported by W. A. Puckner and L. E. Warren in a paper read before the Scientific Section of the American Pharmaceutical Association, and to be published in the Annual Reports of the Chemical Laboratory. In brief the findings are:

Quinin tannate is official in most foreign pharmacopeias, but not in that of the United States. In some of them methods for preparation are given and the official product in all cases is required to contain not less than 30 per cent. of anhydrous quinin alkaloid. The methods prescribed by these pharmacopeias, however, were found in the Association's laboratory to yield products which did not contain the stated amount of alkaloid. As a result of considerable experimentation and consultation with the manufacturers of quinin tannate in this country, a simple method of making the substance was worked out, which will enable anyone at all familiar with pharmaceutical operations to make a preparation of good quality.

Four commercial brands of quinin tannate were examined with the results shown in the accompanying table. From these findings it appears that the quinin tannate of the New York Quinin and Chemical Works is of good quality and contains more than 30 per cent. quinin. The products of the Brunswick Chemical Works (Mallinckrodt Chemical Works, selling agents) and the Powers-Weightman-Rosengarten Co. are satisfactory except that their quinin content is somewhat low. The Merck brand contains about 9 per cent. of free quinin, is bitter and is, therefore, not fit for use. The poor quality of this brand is a further illustration of the need of controlling the quality of medicines, particularly when these are not of much commercial importance.

Inasmuch as the authors have shown that quinin tannate with more than 30 per cent. quinin can readily be made, a preparation with less alkaloid should not be permitted. However, as two brands approach this standard and, as the interested firms will not find it difficult to meet the proposed standard, the referee recommends a temporary standard of not less than 29 per cent. quinin, which standard is to be increased so as to require a quinin content of not less than 30 per cent. by Jan. 1, 1913. It is recommended that the description of quinin tannate submitted be accepted for inclusion with New and Nonofficial Remedies and that the product of the New York Quinin and Chemical Works, of the Brunswick Chemical Works (Mallinckrodt Chemical Works, selling agents), and of the Powers-Weightman-Rosengarten Co. be listed as brands which meet the requirements of this description. It is further recommended that, beginning with 1913, a quinin content of from 30 per cent. to 35 per cent. be required.

In order that physicians may know the facts in the case, it is recommended that publication of this report be authorized.

Number or Brand.	Water (Loss at 100°).	Anhydrous Quinin.	Ether-Soluble Matter.†	Sulphate.	Chlorid	Taste of Filtrate.
P. W. R.	7.88	29.30	0.10	Distinct turbidity	Noticeable opalescence	Noticeably bitter.
Brunswick (M. C. W.).	6.50	29.51	0.19	Absent	Very marked opalescence ...	Noticeably bitter.
N. Y. Q.	8.05	33.36	0.36	Distinct turbidity	Noticeable opalescence	Noticeably bitter.
Merck	9.06	33.97	9.02	Very faint opalescence	Very faint opalescence	Very bitter.

† In general, the values given in this column should indicate the presence of uncombined alkaloid, but quinin tannate is slightly soluble in anhydrous ether; hence the test must be carried out under arbitrary conditions and the residue obtained tested for uncombined alkaloid. The three specimens in which the ether-soluble matter amounted to less than 0.4 *per cent.* contained no uncombined alkaloid.

EDITORIAL COMMENT

In order that pharmacists might be in a position to dispense a good quality of quinin tannate, the examination of the Association's chemical laboratory above referred to was presented to the American Pharmaceutical Association at its recent annual meeting in Boston. While the very simple directions for its preparation which were worked out should make it possible for every pharmacist to prepare his supply of this drug, it was feared that the pharmacist would continue to place his faith in the drug as found on the market and hence the quality of the several available brands was also given in the report. This would have enabled the pharmacist to give preference to those brands which were shown by examination to be of a satisfactory grade. Unfortunately for the pharmacist, as well as for the physician and his patients, those interests which are not in sympathy with the Association's policy of giving publicity to the makers of worthless or adulterated drugs, appear to have been in control when the paper was read and were able to carry a motion that the names of manufacturers be omitted from the paper when it should appear in the American Pharmaceutical Association's publication. In view of this, physicians who use quinin tannate should, in their prescriptions, take the precaution to specify a brand of the drug which was shown to be reliable or, perhaps better still, indicate that they want a brand which corresponds with the standards established by the Council, by appending the letters N. N. R., thus "Quininæ tannas, N. N. R."

Correspondence

Treatment of Rhus Poisoning

To the Editor:—I read with interest the communication of Dr. Robert T. Morris of New York on the treatment of rhus poisoning (The Journal, Sept. 30, 1911, p. 1152). There is no statement as to the date of discovery by Dr. Berryhill, U. S. N., of the soap-suds treatment, but the method is familiar to many clinicians in the Boston hospitals, and I myself have used and recommended the same remedy since 1902. I have never before seen any reference to it in the literature, but I admit that I never looked for it.

C. S. Oakman, Detroit.

To the Editor:—In his 1911 edition Pusey quotes, from The Journal, March 17, 1906, Balch's treatment of ivy poisoning, which is substantially the same as that ascribed to Dr. Berryhill by Dr. Morris in The Journal, September 30. I have tried the treatment with soap-suds scrubbing and alcohol and find it very effective, giving immediate relief.

J. L. Buttner, New Haven, Conn.

To the Editor:—In the *Journal of Biological Chemistry*, 1907, ii, No. 6, S. F. Acree and W. A. Syme relate the results of an exhaustive study of rhus poisoning in a paper entitled "The Composition of Toxicodendrol." They found that the poisonous principle was neutralized by permanganate of potash, used preferably in warm 2 to 4 per cent. watery solution.

For nearly twenty years I was regularly a sufferer from ivy poisoning; and on two occasions the condition was alarming. None of the usual remedies had any effect, except to modify the extreme distress. Permanganate this year and last gave almost instant relief, checking the disorder even when started on the face.

From experience and observation I have formulated the following treatment: No scratching. No ointments in the acute stage. No bandages, for these tend to spread the poison to the surrounding skin. If any protector is needed, let it be a loosely applied dressing of cotton and gauze, kept moist at all times with a mild alkaline solution, and changed at frequent intervals. Frequent and copious washings with lukewarm water and an unirritating soap. Occasionally, after the parts are washed, a 2 per cent. watery solution of permanganate of potash. If treatment has been begun late, and a condition of eczema exists after the activity of the poison has ceased, then soothing ointment may be permitted.

Permanganate of potash stains the skin a deep brown color, but this is a small price to pay for the relief it affords. A 5 per cent. solution of oxalic acid will remove the discoloration, but caution must be exercised in applying it. Alcohol is a solvent of the poisonous principle, but its use tends to spread the trouble. In handling the inflamed surface, it is best to use rubber gloves.

Addison W. Baird, New York.

To the Editor:—Please revise Dr. Hemmeter's formula for bismuth subgallate ointment given in his communication on the treatment of rhus poisoning. To a careful reader the transposition of quantities is evident, but many will use the formula as printed.

William Crawford Johnson, Frederick, Md.

Comment.—The subject of ivy poisoning is commented on editorially in this issue. In regard to Dr. Hemmeter's formula, Dr. Johnson is correct. We therefore repeat the formula with corrected quantities:

Bismuth subgallate	ʒi
Solution epinephrin (adrenalin chlorid) 1-1000...	100 ♏
Lanolin	ʒv
White petrolatum q. s.......................ad	℥i

The Introduction of the Ophthalmoscope into the United States

To the Editor:—I wish to correct the statement with reference to the introduction of the ophthalmoscope into this country, made by Dr. A. D. Williams, of Bedford, Ind., in The Journal, July 29, 1911, p. 408. The credit is due neither to Dr. E. Williams, of Cincinnati, in 1855, nor to Dr. Herman Knapp, of New York, in 1868, but to Dr. Christopher Johnston, who on his return from a prolonged stay in Europe, early in 1854, brought the instrument back with him to this city. In a report made by him to the Medical and Chirurgical Faculty of Maryland, on June 7, 1854 (Transactions for 1854), he exhibited and described it. He had made himself thoroughly familiar with it by studies in Berlin, with von Graefe, and in Paris with Desmarres. Dr. Johnston's report is accompanied by two ophthalmoscopic drawings and it is "highly probable that the very first colored drawings of the background of the eye, published in America, were those which he prepared" (Theobald, Samuel: "The Evolution of the Ophthalmoscope and What It Has Done for Medicine," *New York Med. Jour.*, June 22, 1901). The only article on the ophthalmoscope published in this country prior to Dr. Johnston's report, so far as I am aware, is a translation, somewhat condensed, of Helmholtz's original tract, by Dr. W. R. Sanders, which appeared in the *American Journal of the Medical Science*, July, 1853, and was copied from the English *Monthly Journal of Medical Science*, July, 1852.

Dr. Johnston was a highly accomplished scientist as well as physician, and held in the University of Maryland successively the chair of anatomy (1864-66) and that of surgery (1869-81).

Eugene F. Cordell, M.D., Baltimore,
Professor of History of Medicine, University of Maryland.

Anesthetic Records

To the Editor:—For a number of years I have been collecting anesthetic records with the object in view of being able some day to present to the profession what might possibly be accepted as a standard chart—at least as to contents. With this in view I have written to many hospitals for copies of the charts they use, and have been gratified at the number of responses which were received. In order now to reach my colleagues who have their own private blanks, I must have recourse to this general request. I would ask those who are interested in this subject kindly to send me four copies, one for the Long Island Society of Anesthetists, one each for the King's County and the New York Medical libraries, and one for my own collection. I shall be glad to correspond with any one on this matter and to send our chart (the Long Island College Hospital) in return.

A. F. Erdmann, Brooklyn.

458 Ninth Street.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

TRYPTOPHAN TEST FOR CANCER

To the Editor:—Please give the technic of the test for cancer of the stomach with bromin, referred to in THE JOURNAL, Sept. 9, 1911, p. 928.
W. W. SCOTT, M.D., Walhalla, N. D.

ANSWER.—The tryptophan test referred to depends on the power of ferments present in the cancer juices to break down proteins into amino-acids. Tryptophan is an amino-acid which is split out of the protein molecule by trypsin and by the autolytic enzymes of tissue cells, whether they be normal or cancer cells; but the pepsin of normal gastric juice does not disintegrate proteins as far as the amino-acids, and hence tryptophan is not found in normal stomach contents. When disintegrating cancer-tissue is present in the stomach, autolytic enzymes may be present in the gastric contents and may set free tryptophan from the digesting protein. If it has not been already formed, it is necessary to add a compound of tryptophan, glycyl-tryptophan, to the filtered stomach contents and incubate for twenty-four hours before testing. During incubation the glycyl-tryptophan is split into glycin (amino-acetic acid) and tryptophan.

The test for tryptophan is made by adding bromin water to the suspected liquid. Bromin water is obtained by shaking distilled water with bromin or letting it stand in a closed bottle, in the bottom of which a small amount of bromin is placed. The bromin water should be added cautiously, drop by drop, as an excess of bromin may easily obscure the characteristic color. The addition of a few drops of bromin water to 3 or 4 c.c. of the incubated stomach contents, to which a few drops of 3 per cent. acetic acid have been added, will give a reddish violet color if tryptophan is present.

The tryptophan reaction is not characteristic of cancer unless the possible presence of the proteolytic ferment of the pancreas or intestine is excluded.

PLOMBIERES METHOD OF COLONIC IRRIGATION

To the Editor:—Please give a short description of the Plombières method of colonic irrigation or tell me where I can find an article in English giving the method.
H. L. WILDER, Glen Rose, Texas.

ANSWER.—Dr. Bottentuit, consulting physician at Plombières (*Brit. Med. Jour.*, June 27, 1903), gives, in addition to dietetic and medicinal treatment, directions for using the waters at Plombières. He recommends baths highly, especially when given with the water. In addition he recommends enemas of this water, which should be given at a temperature of from 100.4 to 113 F. (38 to 45 C.) and from a vessel at a height of from 16 to 20 inches (40 to 50 cm.) above the patient's bed. He usually injects a pint at a time. Care must be used to inject it slowly and cause the patient to change position so as to bring it in contact with all parts of the colon. The enemas are best given after the bowels have moved, and after the first pint is rejected the patient should rest a short time and then receive a second enema. In an article on membranous colitis, Michael G. Foster (*Edinburgh Med. Jour.*, 1901) states that the hot alkaline baths at Plombières are often beneficial, their value depending more on their method of employment than on the chemical composition of the water.

HAIR DYES

To the Editor:—In answer to a correspondent (THE JOURNAL, Aug. 26, 1911, p. 757), you speak of eruptions due to hair dye. In one week this year I had three cases, one caused by eau-sublime, and two by "Empire Hair Regenerator." One of the patients asked me for a harmless hair dye. Can you suggest one?
E. HOCHHEIMER, New York.

ANSWER.—All hair dyes are harmful. Probably the following, recommended by Kaposi, are as safe as any:

To obtain a black color,

℞

	Gm. or c.c.		
Argent. nitrat	1		gr. xv
Ammon. carb	1	or	gr. xxij
Unguent. adipis	30		℥ j

M

Or,

℞

Argent. nitrat	4		ʒ j
Plumb. acetat	1	or	gr. xv
Aq. Cologn	1		gtt. xv
Aq. ros	ad 90		ad f℥ iij

M

ACID FRUITS MAY BE TAKEN AFTER CALOMEL

To the Editor:—Is there any scientific basis for the popular prejudice against eating acid fruits or other acids after a dose of calomel? If so, please explain.
LINDSAY PETERS, M.D., San Juan, P. R.

ANSWER.—1. Calomel is not acted on to an appreciable extent by non-oxidizing acids, such as hydrochloric or the fruit acids, except that it is affected by very concentrated boiling hydrochloric acid. It is converted by nitric acid and by other oxidizing acids from a mercurous into a mercuric compound which may produce irritating or poisonous effects. The tendency to this change is in proportion to the concentration of the acid. Probably little change would be effected by therapeutic doses of diluted nitric acid, when taken into the stomach. Calomel is changed in the presence of soluble iodids or bromids, and, to some extent, when in contact with concentrated solutions of chlorids, into metallic mercury and a mercuric compound.

The fear of an action of acids or acid fruits on calomel in the stomach is, therefore, quite unfounded and the same is probably true of the administration of chlorids in ordinary concentration following calomel. The simultaneous use of nitric acid, iodids or bromids should be avoided.

The Public Service

Medical Department, U. S. Army

Changes for the week ended Oct. 7, 1911.

Gunckel, George I., reported for duty at Columbus Barracks, Ohio.

Bewen, A. S., lieut., left San Antonio, Texas, en route to Fort Snelling, Minn.

Wadhams, S. H., major, returned to Fort Slocum, N. Y., from leave of absence.

Casper, Joseph, lieut., returned to Fort Du Pont, Del., from sick leave and departure Sept. 28, 1911, en route to Manila, P. I.

Reynolds, C. R., major, returned to Washington Barracks, D. C., from leave.

King, Charles T., lieut., assigned to duty as surgeon of the transport *Sherman*, with station at San Francisco.

Darby, Taylor E., lieut., left Fort Sam Houston, Texas, en route to Manila, P. I.

French, S. W., lieut., M.R.C., reports for temporary duty at Fort Hancock, N. J.

Bernheim, J. R., dental surgeon, left temporary duty at Columbus Barracks en route to Fort Sheridan, Ill.

McAlister, John A., dental surgeon, on completion of temporary duty at Camp E. V. Sumner, Cloudcroft, N. M., ordered to Fort Bliss, Texas, for temporary duty.

Ford, Clyde S., major, returned to Fort W. H. Harrison, Mont., from leave of absence.

Kirkpatrick, Thomas J., major, reported for duty at Fort Adams, R. I.

Phalen, James M., captain, reported for duty at New York City as attending surgeon.

Fox, James S., lieut., left Fort Sam Houston en route to Philippine Islands for duty.

Edie, Guy L., lieut.-col., orders so amended as to assign him to duty at headquarters, western division, San Francisco, pending departure of transport to Philippine Islands, about Nov. 6, 1911, instead of Oct. 5, 1911.

Bierbower, H. C., lieut., reports arrival at Fort Robinson, Neb.

De Quevedo, F. G., M.R.C., relieved from active duty in Medical Reserve Corps.

Bernheim, J. R., dental surgeon, reports his arrival at Fort Sheridan, Ill., from Columbus Barracks.

Smith, L. L., captain, reports departure from army medical school on four months' leave.

Richard, Charles, reports his arrival at Walter Reed General Hospital, for duty as commanding officer.

Smith, lieut-col., left Fort Sam Houston for Fort Snelling, Minn.

Hart, W. L., lieut., granted two months' leave of absence, to take effect about Oct. 12, 1911.

Bartlett, W. K., captain, leave of absence granted him Sept. 25, 1911, is extended one month.

Geddings, E. F., major, reports his arrival at Fort Snelling, Minn., for duty.

Appel, D. M., colonel, reports his arrival at Fort Sam Houston, Texas, from leave of absence.

Medical Corps, U. S. Navy

Changes during the week ended Oct. 7, 1911.

Hayes, O., A. A. surgeon, appointed acting assistant surgeon from Sept. 29, 1911.

Hathaway, G. S., P. A. surgeon, detached from the naval station, Olongapo, P. I., and ordered to the *New Orleans*.

Allen, D. G., asst. surgeon, detached from the *Elcano* and ordered to duty at the naval hospital, Canacao, P. I.

Bass, J. A., asst. surgeon, detached from the *Saratoga* and ordered to the naval station, Olongapo, P. I.

Hart, S. D., asst. surgeon, detached from the *Barry* and ordered to the *Elcano*.

Traynor, J. P., surgeon, detached from the navy-yard, Boston, and ordered to the *Dolphin*.

McLean, N. T., P. A. surgeon, detached from the *Dolphin* and ordered home to await orders.

Curl, H. C., surgeon, detached from the naval hospital, Canacao, P. I., and ordered to the naval hospital, Mare Island, Cal

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

A NATIONAL DEPARTMENT OF HEALTH

In a recent issue of *LaFollette's Weekly*, the personal organ of Senator Robert M. LaFollette, appeared an editorial on "Government Care of Public Health," a part of which is reprinted for the benefit of readers of THE JOURNAL.

"The speech of Senator Works of California from the standpoint of a Christian Scientist in opposition to the bill so ably championed by Senator Owen, has attracted wide attention to the subject of establishing a national department of public health.

"We must concede that if one believes there is no such thing as sickness or disease, then all scientific research into cause and prevention, quarantine and sanitation laws, and crusade against carriers and sources of contagion, must appear useless.

"But if we believe disease and sickness deplorable facts in human life, just as we believe health and vitality desirable conditions, then we must be anxious that the work done by our government for these objects should be encouraged, correlated, and brought to the highest efficiency.

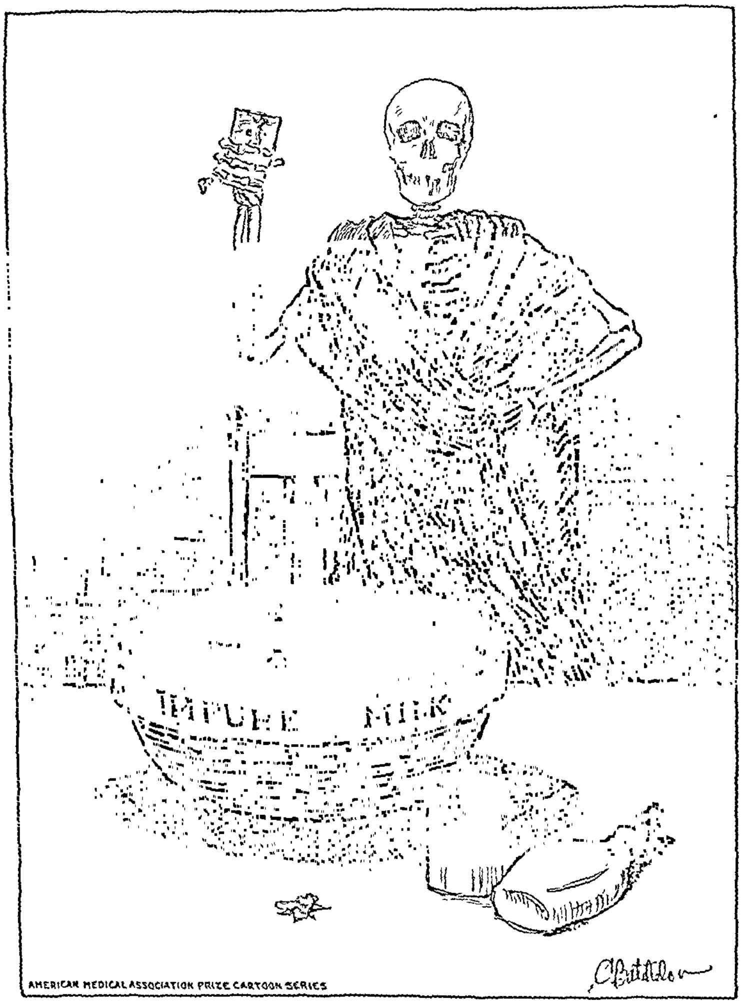
"If we want pure food, cold storage conditions regulated, mosquitoes, flies, rats and other carriers of fever and plague exterminated; if we want the spread of tuberculosis, meningitis, and children's diseases stopped; if we want child labor laws, limitations of hours of women's work, proper health conditions in our public schools, then we should favor a national department of health.

"Scattered through all the various departments, State, Army, Navy, Interior, Agriculture, these subjects are now being considered in various ways. I pick up at random from my desk a report of the Marine Hospital. It relates to plague prevention work—cholera, leprosy, small-pox. It publishes municipal ordinances, pertaining to public hygiene, care of milk, protection of foodstuffs, garbage collection, sanitary and plumbing code. One report of the Department of Agriculture is a treatise on the extermination of hydrophobia; another relates to 'How Insects Affect Health in Rural Districts.' The latest report from the Bureau of Education is a volume on schoolhouses in their relation to health.

"It seems to me a reflection on our national intelligence and a commentary on our commercialism that the nations of Europe should have departments of health and education and we should be content to have these great fundamental subjects scattered about in different bureaus, as though they were of secondary importance in our national life.

"The opinion seems to have gained wide credence that the department is to be organized to promote some school of medicine. Nothing could be more erroneous. Mr. George H. Shibley, a resident of Washington in high standing, devoted to public interest, whose wife is one of the ablest osteopathic physicians in the country, made this statement to the Senate committee holding hearings on the bill:

"'It being a settled fact that the control of the licensing system is in the states, and there being in the states no tendency to surrender that power, it follows that the osteopathic physicians, the homeopathic physicians, and the eclectic physicians, whose occupations are licensed under state laws, are in no danger from a national health department. . . . The need for the establishment of a national health department is most pressing. The people are less protected from disease and death than are their cattle and hogs. A properly conducted department of health can do for the people in general what the Department of Agriculture is doing for the farmers. All of the people are vitally interested in the proposed department, while only about one-half of them are directly interested in the Department of Agriculture.'"


IMPURE MILK
AMERICAN MEDICAL ASSOCIATION PRIZE CARTOON SERIES
CBatchelor

"I DRINK TO THE GENERAL DEATH OF THE WHOLE TABLE"

GRADUATE COURSE

Second Month — Second Weekly Meeting

FRACTURES OF VAULT OF CRANIUM

VARIETIES: Fissured, fragmented, comminuted, perforated, simple and compound. Fracture of inner or outer table alone. Depression, central and peripheral.

Mechanical principles involved "bending" and "bursting" fractures. Lines of fractures.

PROGNOSIS: Depends on brain injury and infection. Extent of injury, area of brain involved, degree of depression, simple or compound fracture. Remote effects, headache, epilepsy and insanity.

TREATMENT: (1) Fracture without depression and without cerebral symptoms, (2) with depression, (3) with cerebral symptoms, (4) compound fractures.

FRACTURE OF BASE OF CRANIUM[1]

PATHOLOGY: Usual points of impact, beginning points of fracture, line of fracture, transverse, longitudinal, diagonal, circular. Effects of bilateral and unilateral compression. "Counter-stroke."

DIAGNOSIS: (1) History of character of blow or injury, site of impact, etc. (2) Ecchymoses—In eyelids, about eyes, mucous membrane of pharynx, mastoid region, post-cervical region. Time of appearance. Differentiate from local injuries. (3) Flow of brain tissue, blood and serous fluid—In external auditory canal. From nose. From pharynx. Significance of each. Differentiate in case of hemorrhage. (4) Disturbance in function of cranial nerves. Forms of injury. Sites of injury.

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[1] Rawling: Lancet, April 9, 1904. Crandon and Wilson: Annals of Surgery, December, 1906. Progressive Medicine, March, 1905, 1907 and 1910. Phelps: Annals of Surgery, Vol. l, Nos. 3 and 4, 1909.

TREATMENT: Disinfection of aural and nasal cavities. Drainage. Removal of fragments. Rest.

DIFFERENTIAL DIAGNOSIS OF "CONCUSSION" AND COMPRESSION OF BRAIN: (1) Onset of symptoms, (2) special senses, (3) respiration, (4) pulse, (5) nausea and vomiting, (6) bowels, (7) bladder, (8) deglutition, (9) voluntary muscles, (10) pupils, (11) prognosis.

Society Proceedings

COMING MEETINGS

American Association of Railway Surgeons, Chicago, Oct. 18-20.
Kentucky State Medical Association, Paducah, Oct. 24-26.
Medical Society of Virginia, Richmond, Oct. 24-27.
Mississippi Valley Medical Association, Nashville, Tenn., Oct. 17-19.
Southern Medical Association, Hattiesburg, Miss., Nov. 14-16.

MICHIGAN STATE MEDICAL SOCIETY

Forty-Sixth Annual Meeting, held at Detroit, Sept. 27-28, 1911

The President, DR. C. B. BURR, Flint, in the Chair

Officers Elected

The following officers were elected for the ensuing year: President, Dr. D. Emmett Welsh, Grand Rapids; vice-presidents, Drs. Guy L. Connor, Detroit; Neal S. McDonald, Hancock; George C. Hafford, Albion; George D. Carnes, South Haven; secretary-editor, Dr. Wilfrid Haughey, Battle Creek; delegate to American Medical Association for two years, Dr. E. T. Abrams, Dollar Bay; alternate, Dr. Arthur D. Holmes, Detroit.

Resolutions were adopted expressing satisfaction and pride in the work of Dr. Wiley and commending the action of President Taft in supporting him.

Paranoia and Certain Paranoid Conditions in Their Relations to the Public and the Profession

DR. C. B. BURR, Flint: The identification of paranoia as a distinct form of insanity marks a psychiatric advance. It has been a useful classification, but like many others subserving an important end has been very much overloaded. While thirty years ago the term was not in frequent employment even among psychiatrists, it is now commonly used by everyone, and its definition is stretched to cover a multitude of faults of disposition, eccentricities, and temporary or permanent departures from conventional standards of thinking, feeling and acting. It has been found a convenient cloak to shield from punishment, and it seems important that a clear understanding of its fundamental character should be presented to the medical profession, the members of which themselves often employ the term loosely and without regard to consistency.

Briefly, this is a non-dementing form of disease of slow and insidious development. It is the outgrowth of a morbid personality, and evolution of a crooked stick. Its delusions are logically evolved from false premises, and in their defense the individual is sagacious and shrewd. Its life history is consistent and its progress marked by certain well-defined epochs. There are: first, the incipient period; second, the persecutory period; third, the period of developed and logical delusions. In contrast with this form of disease is the paranoid form of dementia præcox. The existence of dementia præcox implies early reduction of brain force and hereditary tendency—the neuropathic organization—is an important factor in its development.

There are included in the designation dementia præcox, various forms of disease described under old-time classifications, as the insanity of pubescence, insanity of masturbation, ovarian insanity, katatonia and stuporous melancholia. Perception and memory may be acute, but reasoning and judgment are not correspondingly developed. These patients are in infancy erratic, hysterical, impulsive, and lacking in inhibitory control. They are subject to headache and frequently break down under school pressure. There are not infrequently encountered among alcoholic cases those showing delusions of suspicion, or persecution, or extravagance. The overweening self-confidence, a marked quality of the habitual tippler, goes over with no lack of readiness into an absurd self-appreciation and extravagance of thinking and doing. Ideas of persecution develop, and it is not difficult to believe that the individual's self-criticism is a basal fact in the impression that the outside world is censorious. Similarly the connection of certain manifestations in these cases with sexual wasting is readily established.

A paranoid condition from alcoholism is differentiated from the foregoing insane state by: 1. The presence of a definite provocative factor—alcoholic indulgence. 2. The existence of delusions of persecution and infidelity, possibly also those of an expansive character, all quiescent under abstinence from drink, lighted into extreme activity by the inebriating. 3. The tendency toward recovery under well-directed treatment.

Problems in the Diseases of the Thyroid

DR. CHARLES H. MAYO, Rochester, Minn.: Disease due to lessened secretion of the thyroid is brought about by a thinning of the secreting epithelium in the presence of colloid or other retained secretion, even though the actual size of the gland may be increased enormously. In operating on such glands it is advisable to leave some of the tissue next to the capsule, for the tissue on the surface of the gland retains its powers of producing the internal secretion. Frequently thyroids which have been in this state of lowered secretive power suddenly become hyperactive, and often symptoms of Graves' disease develop. This is brought about by a development of epithelial gland cells growing into the colloid filling the ascini in the gland. Such sudden development of exophthalmic symptoms is usually attributed to some recent occurrence such as a fall from a horse, or a severe shock. The accident may have something to do with the sudden development of the symptoms, but the patient has been in a state where the body was barely able to take care of the extra secretion, and the exophthalmic symptoms were only awaiting a chance to light up.

In the case of patients in too poor physical condition for operation, I advocate the tying of one or more of the thyroid arteries. This is not a harmless operation, for I have lost three patients out of thirty-seven following this operation.

After tying the vessels, there is a discharge of thyroid secretion (internal) which almost overwhelms the patient. As soon as the diarrhea and other severe symptoms are over—about a week—the gland should be removed, for then the patient is in the best condition. The gland is empty of internal secretion, and the operation is much safer than if one waits until the gland has an opportunity to recover from the first active discharge. Practically all the thyroid cases, outside of those between the ages of fifteen and twenty-three, or during pregnancy, are surgical. During these two periods of a woman's life it is natural for the thyroid to enlarge somewhat.

In all other cases the surgeon should be consulted early. Graveyards are filled with people who have been treated medically and then rushed to the surgeon as a last resort. In such cases, if blood has been drawn, the patient "died of an operation," not of the disease, or of the medical treatment. The surgery of the thyroid gland is constantly improving, but advance has been at the cost of many lives that we are now able to save. Twenty-five per cent. of these patients will recover symptomatically, 25 per cent. will die no matter what the treatment, which limits us to the middle 50 per cent. in our surgical work, and we can save about half of these.

(To be continued)

INTERNATIONAL MUNICIPAL CONGRESS AND EXPOSITION

Held in Chicago, Sept. 18-30, 1911

(Concluded from page 1229)

Disposal of Garbage

Dr. A. F. Storke, Oak Park: Garbage should be collected every day, if feasible, or at least every other day; garbage should not be fed to hogs; it is not rich in nitrogenous matter and is a poor fertilizer and should not be used for that purpose; it should be burned at a temperature of 1,250 F., or over. If a municipality is so equipped that it can reduce refuse, a considerable return can be made thereby on the money expended. Garbage should be burned in household burners if the latter are properly cared for and maintained. Garbage should not be placed on dumps, or thrown on the ground. Flies can be kept away from garbage by having the garbage drained, wrapped in paper and put in cans, and the cans kept as reasonably clean as other articles in the kitchen. Garbage should be hauled in tight metal carts, with the tops kept down at all times.

In 1909 an eight-furnace incinerator was constructed in Oak Park, capable of handling 50 tons of garbage a day. This incinerator required for collection of garbage and its care five men, five horses and two carts. The incinerator handled 5,033 tons of garbage at a total cost of about $1.75 a ton. About 200 pounds of coal is used to a ton of garbage consumed.

Dr. Samuel Greeley, superintendent of garbage disposal of Milwaukee, described the Milwaukee refuse incinerator which is designed to handle 300 tons of mixed refuse, that is, garbage, ashes, rubbish, in 24 hours. The ingredients are mixed on a floor above the furnace and then discharged into the furnace by a mechanical stoker. The temperature ranges from 1,200 to 1,600 degrees F. He found that a mixture of 60 per cent. garbage and 40 per cent. ashes and rubbish will burn at a temperature above 1,200 degrees. The cost of operation is varied from 86 cents to $1.05 a ton, depending partly on the labor and the quantity of garbage and refuse handled. When more refuse is delivered to the plant it can be handled more economically than in smaller quantities.

Cost of Health Department Per Capita

Mr. C. B. Ball, chief sanitary inspector of Chicago, presided over this section. He discussed the cost of health department work and whether school inspection, tenement inspection, building plan inspection, tuberculosis work, and garbage collection should be charged against health work cost.

Dr. Gottfried Koehler, assistant health commissioner of Chicago, quoted the address of Dr. Evans, in which he said: "A health department in Chicago costing 25 cents per capita can hold the gross death-rate under 16 per 1,000 for a few years. It can hold the number of deaths from diphtheria at about 800 (3.75 per 10,000); from scarlet fever at about 600 (3.50 per 10,000); typhoid at about 300 (1.33 per 10,000), and baby deaths from summer complaint at about 3,000 (1.4 per 10,000). It can keep small-pox epidemics about 12 years apart and paralyzing epidemics of diphtheria or scarlet fever about four or six years apart."

"A health department spending 50 cents per capita should put diphtheria down to, say, 100 deaths per year; scarlet fever to about 500; typhoid to 120; and cut off 5 per cent. from the tuberculosis mortality. It should be able to add ten years to the small-pox intervals, and three or four years to the diphtheria and scarlet fever intervals." He said that, in addition, he believed the infant mortality could be reduced to 2,500 or less; that accidents at birth, and blindness could also be materially reduced; that venereal diseases could be lessened and following this would come lessening of organic cardiovascular and nervous diseases.

A health department costing one dollar per capita could accomplish and improve the conditions before stated and materially improve the sickness rate from colds, pneumonia and tuberculosis. The living and working conditions could be improved so that the mortality, morbidity and incapacity from impure-air and occupational diseases would be materially reduced. Nutritional diseases of infancy and childhood could be dealt with so that a saving of 25 per cent. in the death-rate would result.

Again quoting Dr. Evans: "A $3.00 per capita health department would cause small-pox to recur only at very long intervals; diphtheria to disappear as an endemic disease; the typhoid rate to fall from its present rate, 15 per 100,000 to 1 or 2 per 100,000; would cut the rate from tuberculosis to one-half its present figure; decrease the loss from colds by one-third; increase the efficiency of the school child 20 per cent.; increase the efficiency of labor, say, 10 per cent.; accomplish nearly as great an improvement in efficiency of human effort and in health conditions over the conditions now prevailing as the $3.00 per capita health administration in the Panama Canal Zone has increased health security and efficiency over that which formerly prevailed there.

"A $10.00 per capita health administration continued for fifteen years should eliminate tuberculosis, small-pox, diphtheria, and typhoid; should greatly lessen scarlet fever; should halve the baby death-rate; should halve poverty and materially decrease crime; should increase the efficiency of labor materially."

Dr. Koehler stated that hospitals for communicable diseases, dispensaries and clinics for contagious and communicable diseases, including venereal diseases, and ambulances for communicable diseases should be charged to the cost of health department work.

AMERICAN ROENTGEN RAY SOCIETY

Twelfth Annual Meeting, held in Richmond, Va., Sept. 20-23, 1911

(Continued from page 1230)

Duodenal Diagnosis

Dr. E. H. Skinner, Kansas City, Mo.: We have been able to base a mechanical diagnosis of duodenal ulcer on the following: When a bismuth and water suspension is swallowed by a fasting patient, it readily passes the pylorus into the duodenum (because the acid stomach content is not taken up as when food is offered the stomach, neither is there a closure of pylorus as when a food bolus is swallowed). The stomach appears normal after the ingestion of a bismuth meal (2 ounces of bismuth oxychlorid to 13 ounces of wheat porridge), but there is a vigorous peristalsis and a rapid emptying of the stomach in as short a time as one-half hour, and at least in two hours. The duodenum seems to be sluggish and casts a shadow for a longer interval than usual, but the food rapidly traverses the remaining portion of the small intestines. By this method of filling the duodenum there may be found present an hour-glass contraction at the site of the ulcer. Usually, the duodenum is sluggish and does not exhibit any pronounced peristalsis. When the duodenum is filled and pressure is made at the outer curve of the duodenum, as shown by the shadow, the patient usually experiences some pain or discomfort. I place the greatest weight on the rapid emptying of a stomach that exhibits the usual normal J-shaped shadow and a vigorous peristalsis.

The Roentgen Rays in Neurasthenia

Dr. Arthur Holding, Albany, N. Y.: Neurasthenia and other neuroses are often caused by conditions which do not have their origin in the nervous system, and which may be detected by the Roentgen ray; therefore, it is advisable that all these patients be examined thoroughly by a competent Roentgenologist. A few illustrative cases are the following: Case 1. Obscure progressive paralysis of the arm, shown by the Roentgen rays to be due to a supernumerary rib. Case 2. Epileptiform convulsions, shown to be caused by unerupted teeth. Case 3. A very obscure gastro-intestinal condition due to cardiospasm. Case 4. Neurasthenia with obscure constant pain caused by hour-glass contraction of the stomach. The patient was regarded as a neurasthenic for twenty years. Case 5. Auto-intoxication with nervous prostration, regarded as a case of neurasthenia due to visceroptosis. Case 6. Neurasthenia proved to be a case of tuberculosis of the lungs. Case 7. Neurasthenia cured by the removal of a stone from the kidney. Case 8. Patient unable to walk because of pain in the feet and legs. Thought to be due to a broken-down arch. The Roentgen ray showed an arteriosclerosis in the arteries of the feet and determined the case to be one of intermittent claudication. Case 9. A painful condition of the wrist supposed to be a neuritis, shown, however, to be caused by tuberculosis of the bones. Case 10. Severe case of neurosis which proved to be caused by a dislocation of the symphysis pubis.

Dental Defects as a Cause of Epilepsy

Dr. Henry K. Pancoast, Philadelphia: I wish to call attention to the importance of including a careful examination of the teeth as a part of the general routine examination of all cases of idiopathic epilepsy. Dental defects may exist and be responsible for the epilepsy. In three cases examined by me such defects proved to be etiologic factors because when they were remedied the patient was free from epileptic attacks. Such defects may exist without any clinical manifestation; in fact, that is the rule; therefore, it is advisable in all cases of epilepsy to include as a part of the routine examination of the head a careful examination of the teeth. This is especially important in the case of children, although cases have been discovered in adults where the epilepsy was caused by dental conditions. Any defects found must be remedied early, in order to do any good, as they are usually, perhaps, only a contributing factor in the etiology of the condition. Moreover, in view of this fact there should be no relaxation in the vigorous application of any other therapeutic measures that have been practiced, or which may be indicated.

Discussion on Papers of Drs. Holding and Pancoast

Dr. E. H. Skinner, Kansas City, Mo.: I once heard a man speak against machine-made diagnoses, and yet diagnoses made by mechanical means are superior to mere gray-matter diagnoses. The thermometer, microscope, Roentgen ray and blood-pressure apparatus have superseded less accurate and exact aids in diagnosis. Many cases of gastro-intestinal disturbance have been diagnosed as neurasthenia until the Roentgen ray disclosed an ulcer of the stomach, which was substantiated by a careful inquiry into the history of the patient. The gastro-enterologist claims that gastroptosis is the cause of neurasthenia, while the neurologist holds that neurasthenia is responsible for the gastroptosis. The Roentgen ray will often disclose a condition which, if corrected, will dispel the neurasthenia.

Dr. George C. Johnston, Pittsburgh: As for neurasthenia being caused by unerupted teeth, it is probably true that there is some connection between the irritation of impacted teeth or any other constant irritation and epilepsy—but only in the case of an individual who is going to have epilepsy anyway. For three or four years I have examined cases of impacted teeth removed by two extraction specialists, but I have yet to see a single instance of epilepsy from this cause. As for neuralgia: I was asked to examine a gentleman who had been suffering intensely from tic douloureux for a long time. Careful examination with the Roentgen ray finally disclosed a little area of caries just under the gum margin, in which there was a tomato seed. When that was removed the neuralgia ceased, and it has not returned since. In another case the nervous disturbance was due to abscessed incisor teeth.

Dr. George E. Pfahler, Philadelphia: I was asked to examine a woman who had a neuralgia in her right foot. The neurologist who referred the lady to me scouted the idea that the neuralgia might be caused by an abscessed tooth, although I had found two such teeth in the roentgenogram. Two years later another physician referred the patient to a dentist, who treated these two teeth, and the neuralgia promptly disappeared.

Dr. Clarence E. Coon, Syracuse, N. Y.: At the age of 17, a man began to have attacks of epilepsy which increased in severity and frequency until his mind became affected. His family finally had to place him in an asylum for the insane. He became violent and unmanageable. I was asked to examine him and found four impacted wisdom teeth, which I advised to have extracted. This was done, and from that time on this man has not had a single attack of anything like epilepsy. Within two weeks after the operation he was rational and quiet. He gained rapidly in weight, and is now entirely well.

Dr. Henry K. Pancoast, Philadelphia: I would not want to create the impression that I believe that epilepsy is solely caused by impacted teeth, or other dental conditions. In epilepsy, as in any other disease, perhaps more so, you must have the soil in which the seed can develop. It is particularly in those cases where the dental conditions do not give rise to clinical phenomena that we must include the mouth and teeth in our examination. But this is only one factor which may cause the epilepsy.

Roentgen Diagnosis of Position in Pregnancy

Dr. P. M. Hickey, Detroit, Mich.: It is possible to make a Roentgen diagnosis of the position of the fetus in utero without apparent injury to the mother or fetus. The differential diagnosis between single and multiple pregnancy can be made with certainty. The cases I investigated went on to term and normal delivery. Careful examination of the child failed to reveal anything indicative of damage done by the ray.

(To be continued)

ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES

Twentieth Annual Meeting, held in Milwaukee, Sept. 26-29, 1911

(Continued from page 1229)

Award of Association Prize

The first annual award of the prize of $200 presented by the association for the best essay submitted in competition on the subject "What Are the Best Available Measures to Diminish Venereal Disease Among Soldiers and Sailors, and Along What Line Should We Seek the Cooperation of the Federal, State and Municipal Authorities?" was made for the essay presented by Captain Edward B. Vedder, M.C., U. S. Army, who after noting the importance of the question of the prevention of venereal diseases and the ineffectual methods thus far adopted to prevent or limit them, made the following recommendations: 1. Reestablishment of the canteen. The author believes that the absence of the canteen has promoted intemperance, and as soldiers will continue to use alcoholic beverages even as civilians do, if drinking within the post is barred, they will go outside to disreputable houses, and many will become victims of prostitutes. 2. The compulsory and universal adoption of the following measures in the military services: (a) Organization of soldiers' and sailors' clubs to provide legitimate amusement for the men. (b) Instruction for every man in the services on the subject of venereal disease, by a well-written and illustrated pamphlet on the subject, on which the recruits should be required to pass a simple written examination before being sworn into the service. (c) Approved methods of personal prophylaxis after contact by thorough washing of the genitalia with soap and water followed by 1-2000 bichlorid; injection of 10 per cent. argyrol solution into the urethra and inunction with 33 per cent. calomel ointment; this treatment to be given at hospital, or from packet carried by the soldier. Every man returning from pass should be obliged to report at the hospital, state whether he has exposed himself to venereal infection and whether he has used the packet. If he has not used the packet, he will be given the prophylactic treatment. If he states that he has not exposed himself and subsequently develops venereal disease, he will be tried by summary court. (d) Physical inspection which has already been tried, but without great success in many cases. Inspection should be unannounced and unexpected and every medical officer in the post should take part in the inspection. (e) The venereal register. This register which is generally kept at the hospital, at present, should go with the man when he is transferred to another post or another ship. This will require a change of existing regulations, as the surgeon, who alone has these histories, is not informed when the man is transferred. This would prevent many readmissions, some of which are carried at present "in line of duty" because of this lack of previous medical history. 3. Stoppage of pay. This is the logical punishment for those men, who with the above recommendation in force, still contract venereal disease, and is intended chiefly to compel men to use the prophylactic. Statistics show that 7.5 per cent. of all men fail to report on return from liberty and 18.8 per cent. of the total number of venereal diseases in the sick reports may be attributed to this cause. Another large percentage is due to denial of venereal exposure.

These measures are applicable in both Army and Navy, and are independent and each essential to success. For this reason he believes that all these methods should be universally enforced by War and Navy Department orders. Congressional action would be necessary for the reestablishment of the canteen, the obtaining of appropriations for men's club houses, and the enactment of a law providing for stoppage of pay while on sick report on account of venereal disease not contracted in line of duty.

He next took up the cooperation desired with the federal, state and municipal authorities and suggested as regards the federal authorities that the services should do all in their power to further the appeal now before Congress for a national department of public health, which could make a thorough study of the subject of venereal diseases in the United States; that the federal authorities should be asked to take more severe measures than have yet been adopted for the suppression of the interstate and international traffic in white slaves by which the ranks of the prostitutes are largely recruited and that the postoffice authorities should be asked to deny the privilege of the mails to the fraudulent mail order concerns that advertise to treat venereal diseases. The state and municipal authorities, he suggests, should adopt the following measures: Compulsory notification of venereal diseases which can be studied and controlled, by knowing where the cases are; segregation, inspection and treatment of prostitutes found to be diseased; abolition of liquor selling in houses of prostitution, and of soliciting on the streets, and the education of the young of the land in matters of sexual physiology and hygiene.

Captain Vedder acknowledged that none of the measures recommended was ideal and that the elimination of venereal diseases could never be obtained until human nature is quite altered, but he argued that the adoption of the measures recommended would undoubtedly result in a considerable reduction in the incidence of these diseases.

Dementia Præcox and Alcoholism

Captain L. L. Smith, M.C., U. S. Army, after a thorough discussion of this question, including a careful study of the literature, believes that this subject is most important from the standpoint of the military surgeon, as dementia præcox is the most frequent form of mental disease observed in patients admitted from the military service to the Government Hospital for the Insane. In the fifty-nine cases which the author analyzed, it was noteworthy with what frequency alcoholism was given as an etiologic factor in the production of this form of psychosis. Indeed, in the early stage of the disease, it was not always possible in these cases of dementia præcox combined with alcoholism, to make an accurate diagnosis. The history of the patient, especially if he had been sent to the hospital from remote military posts, would often indicate that the prominence of the alcoholic symptoms at the onset of the psychosis had resulted in a diagnosis of an alcoholic psychosis. In the fifty-nine cases studied there was a history of alcoholic excesses in 21 cases, or 35.6 per cent., and 6 or 10 per cent. were mixed cases of alcoholism and dementia præcox. Acute and subacute alcoholism, more frequently complicated these cases than the chronic form. The cases of chronic hallucinosis in which the alcohol may act as a disintegrating factor, frequently turn out to be dementia præcox.

Military Absenteeism in War

Major Edward L. Munson, M.C., U. S. Army: The medical department in war is charged with the administration of the sanitary service, and especially with the methodical disposition of the sick and wounded, so as to insure the retention of those effective, and relieve the fighting force of the non-effective. While the army surgeon remains a doctor in respect to his usefulness in the field of professional service, he must exercise his restorative effects with ailing individuals toward an end, the purpose of which is essentially military and not humanitarian. At the beginning of the Civil War, five soldiers were present for about every one absent. A year later three were present for every one absent. In the third year, two and one-half, and in the final year, less than two men opposed the enemy for every man absent. Though this grave proportion of absentees received the early attention of the military authorities and military measures were taken for its prevention, it continued to increase despite of all efforts until more than one-third of the armed land forces of the United States were absent from the colors and beyond military control, and to this absenteeism officers particularly contributed.

Absenteeism may be regarded in general as an expression of dissatisfaction with military service and conditions, as the statistics show that in the Federal Army in commands of an average effective strength of 662 men, 258 were absent from cause rather than illness, and only eighty by reason of sickness in hospital. Factors were a low standard of discipline, and improper location and management of general hospitals, most of which were far distant from the seat of military operations, and were under management of civilian physicians, or under state control, instead of being under the exclusive control of the Medical Department of the Army. Another factor was wrongful admission of soldiers to sick report. Malingering does not appear on the records of the Civil War with 6,454,834 admissions to sick report, nor on the records of the Spanish-American War with 317,195 such admissions. The first aim of a malingerer is to be enrolled on the sick report, the second, to be separated from his regiment and sent to a general hospital, from which he then secures, by favor or political influence, a sick furlough, and once at home, certificates of physical disability are unfortunately easy to be obtained.

At the outbreak of the Civil War, there were only eighty-one medical officers of the regular establishment available for duty with troops and this was insufficient to leaven the mass of 14,000 civilian medical men employed in various professional capacities during the war. These latter were as a rule not accustomed to the detection and handling of cases of feigned disease. In the Spanish-American War a similar condition was found, so that it became necessary to issue an order absolutely putting it out of the power of any medical officer to legalize absenteeism by reason of sickness without the final approval of the officers. In the Philippine Islands orders prescribed that sick furloughs should be no longer granted on the recommendation of a single medical officer, but the individual should be sent to the Division Hospital, Manila, for observation and final recommendation by a carefully chosen board of medical officers.

Many men have been discharged from the military service on surgeon's certificate of disability. In the Civil War 223,525 were so discharged; a greater number than those who died of wounds—34,773, who died of disease—183,287, who deserted—199,045, or who were killed in battle—61,362.

The causes assigned for discharge were not convincing: 11,779 discharges were granted for rheumatism, 10,636 for heart disease, 16,185 for diarrhea; 14,500 for debility; 3,872 for epilepsy, 3,729 for bronchitis; 2,038 for varicose veins; 1,415 for varicocele and 1,598 for piles.

Remedies are: better discipline, abolition of political influence—a grave condition under our form of government—careful scrutiny of admissions to sick call, etc. Medical officers should always work in conjunction with line officers, as the latter know better the characteristics of the men in their command. The functions of the regimental dispensary which is intended to care only for emergency cases and the slightly sick or injured should not be used. Severe cases should always be transferred to the field hospitals. In the field hospitals undeserving patients who have been successful in evading duty and leaving their command may be halted in their progress toward the rear and home, and their escape thus prevented. The same applies to evacuation, base and general hospitals, where the diagnosis should be carefully scrutinized and doubtful cases reexamined and passed on by an independent medical board. Similar medical boards with similar powers of limitation of invalidism should be established at the limits of the various sanitary zones along the line of communication.

The various humanitarian relief societies may readily be perverted by designing individuals into innocent promoters of fraud. They should be under firm and tactful military control.

Dr. Munson's paper was a plea for a stronger, more businesslike administrative management of the medical department in time of war. He attempted to demonstrate the economic and military need of maintaining and training in peace the not inconsiderable number of medical officers required in time of war to maintain the strength and efficiency of commands; the utter chaos resulting from expectation that civilian physicians will appreciate and properly perform other than purely professional duty in time of war, and that, in addition to the humanitarian side of the work of the medical department, it has other obligations which form the very foundation of military efficiency and which, in time of war, need to be recognized by both line and medical officers in their true and paramount importance.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS

Twenty-Fourth Annual Meeting, held in Louisville, Ky., Sept. 26-28, 1911

(Concluded from page 1227)

Congenital Mucoid Multicystic Tumor of the Small Intestine

Dr. H. W. Longyear, Detroit: The tumor was about 2 inches in length, situated subperitoneally on the sides and mesenteric aspects of the small intestine, and was composed of an aggregation of small cysts, filled with mucus. The case was discovered accidentally during an appendectomy. The tumor was not removed, as it was apparently benign and causing no symptoms.

Diseases of the Thyroid in the Female

Dr. Miles F. Porter, Fort Wayne: Women are five times more prone to thyroid disease than men. The thyroid was originally a sex organ. The thyroid is especially active during the period of sexual activity, and increases in size during menstruation and pregnancy. The toxemia of pregnancy and puerperal infections are probably often due to inactivity of the thyroid. Goiter may be due to disease of the genital organs. Disease of the thyroid may cause amenorrhea, dysmenorrhea, menorrhagia, sterility, mental aberration, premature separation of the placenta and chlorosis. Goiter in the mother often produces bone deformities in the offspring.

DISCUSSION

Dr. William D. Haggard, Nashville: A few days ago I saw a woman with exophthalmic goiter who married last November, at the age of 30, and in January had marked enlargement of the thyroid, with tachycardia, tremor, and a beginning exophthalmos. She conceived in February and aborted in May. During her pregnancy her symptoms were considerably exaggerated, and an interesting feature was that these symptoms all subsided after the miscarriage. She still has a chronic hyperthyroidism which has recently become more active and for which I think a partial thyroidectomy will relieve her.

Dr. Hugo O. Pantzer, Indianapolis: I removed a fibroid tumor of the uterus, doing a unilateral oophorectomy in a woman who had at the time moderate Graves' disease. Within twenty-four hours after the operation this patient had a very conspicuous thyroid. The following morning I found that the thyroid had subsided completely so as to be no longer palpable. Nine or ten days afterward the patient developed bilateral trouble, and then had hyperthyreoidea in the worst degree from which she recovered only slowly within the next two months.

Dr. Albert Vander Veer, Albany: Ten years ago I removed a fibroid tumor from a woman 31 years of age. She had a marked enlargement of the thyroid. Her uterine appendages had been removed at the time with the fibroid, and she had gone along without any unpleasant symptoms. Ten years later she had all the marked symptoms of goiter, with hot flashes, etc. On examining her I found that the thyroid was slightly enlarged. She presented many of the symptoms of exophthalmic goiter. Her case cleared up nicely under the use of the thyroid extract, but the cause of the condition and the therapeutic remedy given for it were not clear to my mind.

Dr. Edwin Walker, Evansville: A number of years ago I had an experience along this line that made a deep impression on me. The patient came from a highly neurotic family; had suffered from epilepsy during her early life. At about puberty these attacks became worse, and a good deal of the time the patient was in the condition of status epilepticus, having from forty to sixty attacks a day. Bromids had no effect whatever on these convulsions. A few symptoms suggested the possibility of hypothyroidism. I fed her on partially cooked thyroids, and her recovery was remarkable and rapid. Whenever I would stop the administration of this thyroid extract there would be a return of the symptoms. I kept her on thyroid extract for a year or more. She has been under my observation since that time; she was 15 years of age then, and 35 years of age now, and she has been entirely relieved of her epilepsy.

Dr. Roland E. Skeel, Cleveland: Last year I saw a patient who was choking rapidly because of a rapid enlargement of the thyroid. She was eight months pregnant. She had an attack of dyspnea, and she had such a severe stridor that it could be heard across the corridor. She had an enormous thyroid which was removed under local anesthesia, and being fearful she might be delivered of an eight-months child, I ordered a small dose of morphin. After giving the morphin, she had very marked toxemia of pregnancy, so much so that the urine contained from 10 to 15 per cent. of albumin. This is contrary to what is observed under these circumstances. There was a rupture of the bulb of the jugular vein, and she died instantly. The house surgeon made a post-mortem Cesarean section and secured a living child. The child lived a few weeks, then died from ordinary marasmus.

Dr. William H. Humiston, Cleveland: We see many cases in which we have a rapid pulse and a great many symptoms that we are at a loss to account for, and examination of the thyroid shows no enlargement whatsoever. My experience in these cases has been that with the administration of the thyroid extract I have universally obtained good results.

Dr. Robert T. Morris, New York City: If we have a hypothyroidism, the thyroid extract furnishes a substance which is not furnished in sufficient quantity by the gland itself. If we have a hyperthyroidism, it often means that we have a compensatory hypertrophy of the gland which is under great demand, and in that case, if we give the thyroid extract we lessen the need for compensatory hypertrophy on the part of the gland, so that in certain cases of hyperthyroidism and incases of hyperthyroidism we use precisely the same therapeutic resource because of the two different groups of cases, but each case in itself becomes a study. In one case you will find with the *x*-ray alone you can overcome almost all of the symptoms of hypo- or of hyperthyroidism; in another case, with the thyroid extract you are using, while in another case you have to use both together, and in still another case you produce disastrous results with either one of the two.

Fibroids of Cervix

Dr. Lewis S. Smead, Toledo: Fibroid tumors of the cervix and uterine body below the movable peritoneum have not received the attention to which the great technical difficulties of their removal entitle them. The subperitoneal variety are most troublesome because of their immobility and the obliteration of landmarks they cause. Fibroid tumors of the cervix are found in about 5 per cent. of all women who have uterine fibroids. The tumor may arise in front, behind or at the side of the cervix, but the posterior growths are somewhat the most common. The physical characteristics of the tumors are not unusual, but the distortions of the pelvic organs, especially of the vagina and bladder, are common. The cervical tumors, because of their position and their immobility, are very likely to block the birth canal. Small fibroids on the anterior cervix, projecting into the base of the bladder, may simulate almost exactly the male prostate. The bladder is usually enormously elevated and enlarged by being stretched out over the tumor. The vagina is much elongated and crowded out of position. The rectum and vagina are much thinned by pressure atrophy.

The ureters may be pushed up by a tumor or pulled up by adhesions. They may also be blocked by pressure or kinking. The rectum and sigmoid are raised up by tumors arising beneath them. The position of the upper end of the vagina is usually the key to the situation, and an examination under ether will often locate it. The operative treatment is radical, rarely palliative. The operative removal requires the use of special operative maneuvers, such as bisection of the uterus and tumor, enucleation, and excision of a large wedge of the tumor, or the classical side-to-side hysterectomy. The principle of the Doyen hysterectomy can often be employed with profit. The cavity left is very liable to infection from the rectum, and will usually have to be drained, although in some cases it may be obliterated and the abdomen closed.

Early Diagnosis of Ectopic Gestation

Dr. R. R. Huggins, Pittsburgh: The diagnosis should be made previous to the final rupture and collapse in at least 80 per cent. of the cases. If a flow from the vagina begins in a period varying from four to five days to three weeks after the regular time, continuing more or less regularly, accompanied by pains periodic in character, located in the hypogastrium on either side, extrauterine pregnancy should at once be suspected by the physician, unless some other well defined condition is present to account for it. The vaginal hemorrhage may be dark-colored blood, coagulated at times; at others a blood-tinged leukorrhea, or in some instances bright red. This hemorrhage is doubtless due to a partial separation of the ovum from its cyst wall, or to the separation of the decidua from the uterus.

In ninety-five per cent. of the cases of ectopic pregnancy seen by me the history and local symptoms have overshadowed all others and seldom in the early weeks has there been present the general signs of pregnancy. Careful study of the history in fifty-two cases which had gone on to rupture in my own experience showed that in all but five there had been some irregularity of the normal flow and pain before the final rupture and collapse.

Interstitial Pregnancy

Dr. N. Stone Scott, Cleveland: There are three subdivisions: (1) External interstitial pregnancy, attended with danger, because rupture usually takes place into the abdomen before the sixth month; (2) middle interstitial pregnancy, and (3) internal interstitial pregnancy. The use of the curet is the etiologic factor in the production of many of them. So-called false perforations of the uterus are frequently interstitial pregnancies. The second variety begins as interstitial, develops into the uterus, and terminates normally.

DISCUSSION

Dr. James F. Baldwin, Columbus: Several years ago I reported six cases in which I made a diagnosis of ectopic rupture and operated.

Dr. Charles N. Smith, Toledo: The chief obstacle to early diagnosis in extrauterine pregnancy is the fact that a patient who is not suffering continuously or seriously does not consult a physician until the rupture has taken place.

Dr. E. Gustav Zinke, Cincinnati: The pathology of ectopic gestation is vast, and he who has not grasped it will fail to diagnosticate cases of ectopic pregnancy or will mistake them for something else. Tubal pregnancy, with normal genitalia, is an entirely different thing from an ectopic gestation occurring in a patient with a pathologic condition in the tube, the ovary and uterus. The symptoms of a tubal abortion are entirely different from those in a case of tubal rupture. In one case, the tubal abortion, the symptoms are not alarming, and the woman may recover, and the diagnosis may remain in doubt; while a case of tubal rupture, with an otherwise normal pelvic cavity, is so typical that no man can mistake it for anything else. Again, we have ectopic gestations which are strictly tubal and remain so from the beginning to the end, and they are the cases that are comparatively free from symptoms and go to the end of term with a living fetus, and they are easily removed because they are more or less pedunculated. No adhesions have taken place. In another case there may occur tubal rupture and the neighboring structures may become involved, and the fetus goes to the sixth or seventh month, when it dies for lack of nutrition and becomes encysted. In other cases the fetus undergoes solidification.

Dr. Hugo O. Pantzer, Indianapolis: I would like to add another symptom to the signs and symptoms given by Dr. Huggins which is invariably present, namely, a pulsating tumefaction on one side and not on the other. In rare instances it is attended with marked congestion or with tubal inflammation.

Dr. Charles L. Bonifield, Cincinnati: A great many women with ectopic gestation get well without operation. It is the experience of every operator, that after he has examined the specimen, he has wished he had left the patient alone.

Dr. William H. Wathen, Louisville: I have had approximately 150 of these cases, and of that number but one patient bled to death. That occurred about twenty years ago. I reached the patient just as a secondary hemorrhage had caused her death. These patients will not bleed to death if the rupture is between the folds of the broad ligament, and seldom or never if it is a tubal abortion. They may have a rupture through the tube into the peritoneal cavity. I believe that not one out of twenty-five women has died from secondary hemorrhage.

Dr. Walter B. Dorsett, St. Louis: A woman ran up to the third floor, fell, and died suddenly. A post-mortem examination disclosed the abdomen full of blood. She had bled to death from ruptured ectopic pregnancy. These women bleed to death more frequently than is stated by Dr. Wathen.

Dr. A. B. Miller, Syracuse: The general practitioner in many instances is not called sufficiently early to make a diagnosis. These patients feel perfectly well, but in six hours they become desperately ill, showing that rupture has taken place. We cannot always make an absolute diagnosis by the symptoms and physical findings.

Dr. D. C. Moriarty, Saratoga Springs: I believe it is well to operate early in these cases of ectopic pregnancy.

Dr. Miles F. Porter, Fort Wayne: It is not true that none of these women die of hemorrhage. I can find fifty men who operate on these patients practically as they come, and they will have a lower death-rate than another fifty men who practice the *finesse* referred to, and that is the reason I am not in favor of this extreme diagnostic *finesse*.

Dr. William H. Humiston, Cleveland: As a rule, these patients do not consult a physician unless they are very nervous and are in pain, and that is why a great many of the cases are not diagnosed before rupture.

Radiographic Diagnosis of Gastric and Duodenal Lesions

Dr. Lewis Gregory Cole, New York City: Anatomically and physiologically the first portion of the duodenum has always been considered a part of the small intestine, but normally it is dilated into a triangular cap which surmounts the pylorus and corresponds in size and shape with the stomach, and has absolutely no resemblance to the small intestine. Its motor phenomena correspond with those of gastric peristalsis, and it is absolutely free from the small, rapid, peristaltic contractions of the remaining portion of the duodenum. It is probable that the chyme in this portion has not yet been neutralized by the intestinal and pancreatic secretions. This may account for the fact that 90 per cent. of duodenal ulcers occur in this portion. I consider the pyloric sphincter as guarding the entrance to the intestine and allowing only that food that is recognized as properly prepared to be served to the intestine, and closing the door to prevent it from falling back into the stomach during diastole. The relative strength of the pyloric sphincter to the peristaltic contraction of the stomach is one of the most important factors in functional derangements of the gastro-intestinal tract. The diagnosis of gastric carcinoma at an early stage is now accomplished in a very large percentage of cases, and the radiologist is justified in either making a negative diagnosis or stating with certainty that there is either a benign or malignant lesion which requires an immediate operation.

Lipectomy for the Obese Abdominal Wall

Dr. Francis Reder, St. Louis: I have followed during abdominal operations the suggestion of Dr. Kelly to excise enough of the obese wall to facilitate intra-abdominal work, and in my experience in five cases the intra-abdominal work was rendered less difficult; but in two of the cases this fat caused considerable trouble, which was induced by a late section. It does not require any particular skill to cut away enough of the fat about the field of operation to get a sufficient amount of room for easier work; but it does require some knowledge to ablate these masses of fat that no untoward consequences may arise. To prevent any postoperative sequelæ, a wedge-shaped mass of fat should be removed, the two incisions converging into one on the fascial layer. This leaves no undetermined surface as a receptacle for secretions. It does not matter how long the incision is, provided there is no extensive undermining of the fat layer. I have found it of service to first carry the straight incision across the abdomen down to the fascia, this incision disclosing the thickness of the fat. By placing the left hand in the incision, and against the fat wall, I am able to guide more accurately the right hand in making the upper and lower flaps. After the ablation of the fat has been accomplished, the wound is covered with hot saline cloths, while the intra-abdominal work is being conducted. Fat removal is only to be recommended when the mass of fat is a distinct obstacle to the intra-abdominal work.

Personal Observations on Cancer

Dr. J. Garland Sherrill, Louisville: I have followed 208 patients and traced them to the present time. Of nineteen abdominal operations, eleven patients are living, five past the three-year limit, while others died in from twelve to eighteen months. Of twelve vaginal operations, four patients are living from three to twelve years after operations; eight had recurrence, dying within eighteen months. Trauma and irritation are important factors in the determination of the site of a malignant neoplasm. My cases show 8 per cent. in which trauma was noted, and 18 per cent. in which irritation was a factor. The results in my cases show very readily the improvement in ultimate results when radical surgical treatment is applied early. The serum treatment of cancer has been disappointing. I have used the ascitic fluid of one patient, which was injected into her own tissues, with no marked benefit, although the disease seemed not to progress during the time of its employment. Fulguration has not accomplished much, nor has the Röntgen ray done more than the knife or cautery can accomplish in a more thorough and certain way.

Sterilized Animal Membranes in Surgery

Dr. Robert T. Morris, New York City: For some years I have been experimenting with the absorbable-animal membranes in surgery, and have now and then found some point which seems to be new in this work. One case worthy of report was that of a young man, who, in riding down a steep hill on his bicycle, met an automobile coming up, turned aside suddenly into a bank, and the handle-bar of his bicycle tore five holes in the ileum. In that case there was so much contusion that I did not know where to resect. I washed out the blood and fecal matter, and decided temporarily to cover each opening with Cargile membrane until we might get past the period of shock, and then consider the possibility of excising bowel. The loops of perforated bowel were thrown about a small central drain and a large dressing applied, and the young man not only lived, but I did not do any excision of bowel. He was walking in thirty days without any fistula. That, I presume, was due to the use of the Cargile membrane and to nothing else.

Another point I have noticed with the Cargile membrane is that sometimes it does not undergo absorption rapidly. In an automobile accident, the patient having sustained a depressed fracture of the skull, I elevated the skull, separated the adhesions, and placed a large segment of Cargile membrane between the dura and the cranium. In this case there was occasion to do an operation some eight months subsequently for some remaining adhesions, and this membrane had not undergone any change whatsoever, so far as I could observe. It remained perfectly free and loose. It has prevented the formation of adhesions over the area I dressed and there were some supplemental adhesions about the periphery. This was an odd thing, and I do not know how to account for it. In many cases I have used the membrane for the prevention of recurrence of peritoneal adhesions as perhaps the favorite resource. In most cases now, in which I have occasion to separate extensive peritoneal adhesions, I depend on placing a sheet of this sterilized animal membrane over the area from which adhesions have been separated for the purpose of preventing a mechanical obstacle to the recurrence of adhesions.

Prevention of Shock

Dr. J. H. Carstens, Detroit: By simplicity and tact in management before the operation, much shock is prevented. Have everything ready in the operating room, and start the anesthetic immediately. Have all necessary ligatures and instruments at hand, so that there need be no delay during the operation. Analyze the case thoroughly beforehand, so that you may know exactly what you are going to do, and how you are going to do it, and what complications may arise. Give 2 quarts of a saline enema, or a hypodermic injection as soon as the operation is fininshed. Keep the patient free from pain for twenty-four hours after the operation.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Illinois: Coliseum Annex, Chicago, October 26-28. Sec., Dr. J. A. Egan, Springfield.

Louisiana: New Orleans, October 19-21. Sec., Dr. A. B. Brown, 108 Baronne Street.

New Jersey: The State Capitol, Trenton, October 17-18. Sec., Dr. H. G. Norton, 429 E. State Street.

West Virginia July Report

Dr. H. A. Barbee, secretary of the West Virginia State Board of Health, reports the written examination held at Charleston, July 10 to 12, 1911. The number of subjects examined in was 20; total number of questions asked, 120; percentage required to pass, 80. The total number of candidates examined was 70 of whom 59 passed, including 2 osteopaths and 11 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Kentucky School of Medicine	(1897)	81
Louisville Medical College	(1904)	80
University of Louisville (1891) 80; (1911) 80, 81, 81, 83, 83, 83, 84, 84, 84, 85, 86.		
Baltimore Medical College (1907) 84; (1910) 85; (1911) 86, 89, 90		
College of Physicians and Surgeons, Baltimore (1910) 83; (1911) 81, 82, 83, 84, 86, 86, 88, 90, 90.		
Maryland Medical College (1903) 80; (1911) 80, 81, 81, 82, 84, 84, 84, 88.		
University of Maryland	(1911)	83
Ohio-Miami Medical College	(1911)	84
Cleveland-Pulte Medical College	(1911)	83
Eclectic Med. Coll., Cincinnati	(1910) 80; 1911)	80, 81, 82, 85
University of Pittsburg	(1910) 84; (1911)	85, 90, 92
Jefferson Medical College	(1911)	82, 83, 89
Chattanooga Medical College	(1903)	80
Medical College of Virginia	(1911)	82, 89
University College of Medicine, Richmond	(1911)	88
FAILED		
Louisville and Hospital Medical College	(1908)	75
University of Louisville	(1909) 78; (1910) 75; (1911)	77
Baltimore University	(1900)	56
College of Physicians and Surgeons, Baltimore	((1910)	79

Maryland Medical College	(1911)	74
Detroit Homeopathic College	(1911)	71
Lincoln Medical College	(1911)	71
Eclectic Medical College, Cincinnati	(1910)	72
University College of Medicine, Richmond	(1911)	83 *

* Fell below 65 in one or more branches.

The following questions were asked, not including those in osteopathy:

ANATOMY AND EMBRYOLOGY

1. Name the bony prominences of the elbow and the ligaments of the elbow joint. 2. Give articulations of the first cervical vertebra. 3. Where is the spleen and what are its uses? 4. Describe the two principal arteries of the forearm and tell how they form the palmar arches. 5. Of what does a vertebra consist? Name the processes and tell what their object is. 6. Describe the stomach. 7. Give brief description of facial nerve. 8. Name the muscles of the shoulder and arm. 9. Name the sutures and fontanelles in fetal head. 10. Give difference in fetal and adult heart.

BACTERIOLOGY AND HYGIENE

1. Classify bacteria and give example of each. 2. Name the bacteria frequently found in soil, water, milk and air. 3. What are toxins and antitoxins? Give example of latter. 4. What is meant by phagocytosis? 5. Describe sterilization and antisepsis. 6. How would you prepare specimen (diphtheria) to be sent a laboratory for examination? 7. Describe pure water; how would you render it wholesome when contaminated? 8. Describe the location of well or spring in relation to privy vault or stable. 9. Describe the hygiene of a tuberculous patient. 10. Give causes of air contamination of school room and proper ventilation of same.

CHEMISTRY AND MEDICAL JURISPRUDENCE

1. Define chemistry. 2. How many elements are there? How represented? 3. Give symbols of gold, silver, iron, lead, arsenic, potassium, mercury, calcium and sodium. 4. Name elementary substances used in their pure state in medicine. 5. Define qualitative and quantitative analysis, with example of each. 6. What are mineral waters? Name three. 7. Define and illustrate an acid, base and salt. 8. What is a poison? Illustrate. 9. What are evidences of death by drowning? 10. Evidences of rape?

PHYSIOLOGY AND HISTOLOGY

1. Mention briefly chemical and physical changes in the air and the blood caused by respiration. 2. Discuss sleep theories, naming three hypotheses. 3. Discuss the origin, function and fate of the red-blood corpuscles. 4. State in percentage ratio of weight of blood to that of body. What percentage of loss may be borne? 5. Define systolic, diastolic and mean arterial pressure. How determined? 6. Define enzymes and discuss briefly their action. 7. Define protein, carbohydrate and fat. Estimate nutritive value. 8. What is bile? Discuss physiologic importance. 9. Describe histology of a transverse section of the spinal cord at the cervical enlargement. 10. Discuss the histologic structure of the blood.

PRACTICE OF MEDICINE AND PEDIATRICS

1. To what class of diseases does chorea belong? Give treatment and name important complications. 2. Give the prognosis and treatment in a case of aortic regurgitation with general arteriosclerosis 3. Give treatment of acute endocarditis. 4. Give causes, symptoms, physical diagnosis and treatment of acute croupous pneumonia. 5. Describe causes, tests, symptoms and treatment of typhoid fever. 6. Diagnosis and treatment of pleuritic effusion. 7. Diagnose, treat and give the cause of cholera infantum. 8. Write a prescription for modification of cow's milk for a child 3 months old. 9. What are the causes of convulsions in infants and children? 10. Give causes and treatment of summer diarrhea.

MATERIA MEDICA AND THERAPEUTICS

1. What is materia medica? What is pharmacy? 2. What is opium? Give its derivatives and dose of each. 3. Give composition of Dover's powder; Fowler's solution; Lugol's solution. 4. Give five principal emetics, dose of each and method of administering. 5. Name five intestinal antiseptics. 6. Give physiologic action of urotropin,† its dose and method of [illegible] is a specific in medicine? Give examples [illegible] application. 8. Define anesthesia; give examples of general and local anesthetics. 9. Define pyrexia and hyperpyrexia. How would you meet these conditions? 10. What are the therapeutic indications in intestinal hemorrhage in typhoid fever?

SURGERY

1. Give the methods of controlling hemorrhage. 2. Mention the uses of iodin in modern surgery. 3. Differentiate fracture of the surgical neck of humerus from fracture of anatomic neck of humerus. 4. Diagnose and treat carbuncle. 5. Give treatment of shock. 6. Give symptoms and treatment of cholelithiasis. 7. Diagnose and treat Colles' fracture. 8. Give symptoms and treatment of erysipelas. 9. Give symptoms and treatment of prostatic abscess. 10. Give symptoms and treatment of strangulated inguinal hernia.

SPECIAL PRACTICE

1. Give the symptoms of infantile spastic paralysis. 2. Differentiate between epileptic and hysteroid seizures. 3. Name the causes and dangers of otorrhea. 4. In what acute disease is the ear most commonly involved, and, as a rule, what part of the general structure of the ear is first attacked? 5. Name the conjunctival diseases due to microorganisms. 6. Name four causes of iritis, and note the subjective and objective symptoms. 7. In nephritis, where does the effusion of serum first appear? In cirrhosis of the liver, where? In cardiac diseases, where? 8. State the diagnostic value of a blood examination in chlorosis; appendicitis; trichinosis. 9. Give cause, symptoms, pathology and treatment for laryngismus stridulus. 10. Give symptoms and treatment for nasal polypi.

OBSTETRICS AND GYNECOLOGY

1. What is the placenta? From what is it formed? What is its structure and what are its functions? 2. Name the bones, straits and divisions of the obstetric pelvis. 3. What are the diameters of the pelvic outlet? How is it bounded? 4. Describe the fontanelles and their diagnostic uses. 5. What are the signs of pregnancy—probable, doubtful and certain? 6. Interstitial nephritis in a pregnant woman. How would you treat? 7. Name the diseases of the endometrium and state their effects in pregnancy. 8. Define miscarriage, abortion and premature labor. 9. Describe Crede's method for the delivery of the placenta. 10. What care does the mother require after labor? Define the nurse's duties.

MATERIA MEDICA AND THERAPEUTICS (HOMEOPATHIC)

1. What is materia medica? How are drugs prepared homeopathically? 2. Give the principal indications for aconite, arsenicum and veratrum alb., naming diseases in which they would be found. 3. What are the characteristics of cactus grandiflorus, phytolacca dec. and baptisia tinct.? 4. Name four drugs that have practically only a local effect and give their action. 5. Name four drugs that affect the organism generally and describe their effects. 6. Differentiate between phos. and hepar sulph. in diseases of the chest. 7. What are the indications for uranium nit. in nephritis? For arsen.? For merc. cor.? 8. Name three or four drugs that would probably be indicated in diseases of the testicles. 9. Name four drugs that particularly affect the mucous membranes; four that affect serous membranes. 10. What remedies are called for in melancholia? Give their indications.

PRACTICE OF MEDICINE AND PEDIATRICS (HOMEOPATHIC)

1. Name four of the most frequent complications of rheumatic fever. Give treatment. 2. What is multiple neuritis? Give clinical history, prognosis and treatment. 3. What would be your treatment for septicemia following a scratch on the hand? 4. What are the symptoms of cerebrospinal fever? Give treatment. 5. How would you manage and treat a case of diabetes mellitus? 6. Name the different types of malarial fever. Give treatment. 7. What are the symptoms of poliomyelitis? Give treatment. 8. What is icterus and what does it signify? 9. What is "summer complaint"? How would you treat it? 10. What is hemophilia? How would you treat it?

MATERIA MEDICA AND THERAPEUTICS (ECLECTIC)

1. Define materia medica, therapeutics Name five modes of administering drugs. 2. Give source, properties and therapy of ergot, hydrastis, strychnin. 3. Give physiologic action and specific symptomatology of apocynum, belladonna, digitalis, gelsemium. 4. What is the source of turpentine? Give its physiologic action, dose and therapy. 5. What is normal saline solution? How administered and in what conditions generally used? 6. Discuss therapeutic value of diaphoresis, diuresis, emesis and catharsis. 7. What drugs are available for local anesthesia? Give indications and technic of application. 8. Describe in detail therapeutic use of H_2O. 9. Name two gaseous disinfectants and give the technic of application. 10. What remedies would you use for the treatment of heat stroke, syncope, eclampsia and shock?

PRACTICE OF MEDICINE AND PEDIATRICS (ECLECTIC)

1. Name three clinical varieties of meningitis and give an etiologic factor in each. Diagnose and treat. 2. Diagnose and treat acute articular rheumatism. 3. Define Pott's disease. Give the etiology, diagnose and treat. 4. Give the symptomatology, diagnose and treat diabetes mellitus. 5. Give the etiology and diagnostic import of enlarged lymph-nodes. 6. Describe burns of the first, second and third degree and give treatment. 7. Diagnose and treat rachitis. 8. Give the etiology, diagnosis and treatment of ophthalmia neonatorum. 9. Differentiate measles and scarlatina. Diphtheria and follicular tonsillitis. Give treatment. 10. What is inflammation? Name the bacteria usually associated with ordinary inflammation and suppurative processes.

Wisconsin July Reciprocity Report

Dr. John M. Beffel, secretary of the Wisconsin State Board of Medical Examiners, reports that at the meeting held at Madison, July 11-13, 1911, 16 candidates were licensed through reciprocity, including 1 osteopath. The following colleges were represented:

College		Year Grad.	Reciprocity with
Rush Medical College	(1909)	(1910)	Illinois
College of Phys. and Surgs., Chicago	(1906)	(1910)	Illinois
Northwestern University Medical School	(1907)	(1910)	Illinois
Bennett Medical College		(1910)	Arkansas
Kentucky School of Medicine		(1901)	N. Dakota
Chicago College of Medicine and Surgery		(2, 1910)	Illinois
Baltimore Medical College		(1909)	Maryland
University of Michigan, Dept. of Med. and Surg.		(1903)	Michigan
Hahnemann Med. College and Hosp, Philadelphia		(1910)	Ohio
Western University, London, Ontario		(1899)	Nebraska
University of Naples, Italy		(1901)	New York

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† Editor's Note: It is discouraging to note that those who examine and pass on the qualifications of physicians fail to appreciate their responsibilities. The graduates of the better schools know this product by its official name. It certainly will not raise the examiner in their estimation if he asks them about it under the name of one of the proprietary preparations of it. We suggest to this examiner that he consider the use of this additional query—not only for his candidates, but for himself: "What is the difference between urotropin, formin, uriform, aminoform, uritone and cystogen; and what is the difference between these preparations and the official hexamethylenamin?"

Book Notices

NOSTRUMS AND QUACKERY. Articles on the Nostrum Evil and Quackery from THE JOURNAL of the American Medical Association. Part I, Quackery. Part II, Nostrums. Part III, Miscellaneous. First Edition. Cloth. Price, $1. Pp. 509, with 220 illustrations. Chicago: American Medical Association Press.

In discussing the nostrum evil or quackery, the average physician is prone to assume that the layman is as well informed on the subject as he is himself. The physician does not realize that the public has not the same power of discrimination in these matters that he has. Medical schemes and assertions, which to the profession are transparent and evident frauds, may, to the man in the street, seem plausible and reputable. It is only when his patients come to him for information regarding the efficacy of certain widely advertised "patent medicines" or the possible value of some quack's exploited "treatment" that the physician realizes the deep and abiding ignorance of the public on all things medical. At such times, too, he is made to realize his own lack of specific information on such subjects. By every such physician the book "Nostrums and Quackery" will be appreciated; to the layman it will be of great value. No man unfamiliar with the detailed methods by which the quack captures his prey can read this book without being impressed with the hollowness of the fraud on which all irregular practice is based. The same may be said of the related subject of nostrum exploitation. By scores of examples, it is shown that "patent medicines," far from possessing some peculiar potency not to be found in the prescriptions of physicians, are either cheap imitations of such prescriptions or absolutely worthless—and sometimes dangerous—mixtures without any therapeutic virtue. This book differs from similar works in the thoroughness of detail with which each subject is treated. Step by step the methods of the quack are described in detail. Samples of form letters are given, testimonials are traced down and shown to be worthless or fraudulent, the remedies themselves analyzed—in fact, the book practically tears aside the veil of secrecy that has hitherto concealed the innermost workings of quackery. Every intelligent layman who reads this volume will have a better understanding of the limitations and possibilities of reputable medicine and he will be better able to conserve both his own health and the health of those dependent on him. The book is free from technical terms, is written in popular style and, with its two hundred odd illustrations, must appeal to all who have an interest in the subjects which go to form its title.

PATHOLOGY AND BACTERIOLOGY [OF THE EYE]. By E. Treacher Collins, F.R.C.S., Surgeon to the Royal London Ophthalmic Hospital, and M. Stephen Mayou, F.R.C.S., Surgeon and Pathologist to the Central London Ophthalmic Hospital. An International System of Ophthalmic Practice. Edited by Walter L. Pyle, A.M., M.D., Philadelphia, Member of the American Ophthalmological Society. Cloth. Price, $4 net. Pp. 558, with 237 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

The senior writer of this admirable manual has undoubtedly taken for his text a sentence from his own "Erasmus Wilson Lectures on the Anatomy and Pathology of the Eye" the statement that "there is a law in biology to the effect that various stages of development through which the individual passes typify the history of the race"; since a perusal of the book furnishes evidence that the authors regard pathologic processes mainly in their evolutionary and embryologic aspect—a point of view which is not only original but eminently scientific.

The chapter on "Aberrations in Development" is an interesting one and deserves particular attention. It will, however, be possible to refer to only a few instances of the abnormalities mentioned in it. The authors mention the fact that in various animals the blood-supply of the retina varies considerably. In some mammals the retina is devoid of blood-vessels; in others they arise directly from the ciliary system in the sclerotic and reach the retina at the disk margin around which they curl; in still others the supply is mixed, some from the ciliary vessels and others from the central retinal system. This anatomic statement forms a preface to the consideration of the abnormal conditions found in man, the writer pointing out in this connection that many pathologic changes, including arrest of development, often simulate anatomic conditions that are normal in the lower animals.

We rather expected that definite mention would have been made of the dotted opacities found and described by Mittendorf as occurring in the posterior lens capsule and believed by him to be the remains of the (intra-uterine) attachment of the hyaloid artery. The occasional occurrence of an opacity of the posterior surface of the lens is mentioned, but this is evidently not the phenomenon spoken of by the American writer.

The anomaly of the papilla known as "pseudoneuritis" is described and the case of Holmes Spicer quoted. The pathology of the various extra- and intra-ocular neoplasms is extensively considered and their relation to evolutionary remains and embryologic tissues minutely described. Neuro-epithelioma of the retina (glioma) is judiciously considered. The "rosette-like" formations are regarded as rudimentary rods and cones. In this work an explanation is given not only of the ordinary morbid processes that affect the eye, but the tissue changes in many rare cases are duly delineated. We have particularly in mind the development of cysts in detached retina (p. 170), the pages and cuts illustrating the eye of Cyclops and some of the illustrations in the section on increased intra-ocular tension.

Reports in this text-book on the histologic and bacteriologic state of eyes lost after operations are of extreme value to the surgeon who is in the habit of doing much operative work. He will find the pages describing the post-mortem appearances in these cases of great interest, explaining as they do the failure of certain surgical interventions, and forewarning him in a vivid way of dangers to be avoided and technical errors to be corrected. The authors evidently attempt, and often succeed, in telling us just why "things go wrong" as well as how they might have gone right.

The investigations of Collins and Mayou do not permit them to answer the question as to whether "concussion" cataract is or is not sometimes produced without actual rupture of the lens capsules. Some authorities believe that this lesion may occur with an intact capsule, as the result of a mechanical tissue alteration whose interference with the nutrition of the lens fibers brings about the lenticular clouding.

Chapter V ably deals with the subject of inflammation and its modifications as seen in the ocular structures. The chapter on "Parasitic Diseases of the Eye" very properly includes the bacteriology of that organ and here, we need not say, there is little left to be desired. The subject is fully covered with a precise brevity that is in striking contrast to the learned verbosity of some other foreign monographs we might mention. In an appendix are given various practical methods for making post-mortem examinations of the eye, such as cutting, staining and mounting microscopic specimens, and the book ends with a concise description of the Wassermann reaction, the preparation of vaccines and the agglutination test.

A PRACTICAL MEDICAL DICTIONARY of Words Used in Medicine, with Their Derivation and Pronunciation, Including Dental, Veterinary, Chemical, Botanic, Electric, Life Insurance and Other Special Terms; Anatomic Tables of the Titles in General Use and Those Sanctioned by the Basel Anatomic Convention; Pharmaceutical Preparations, Official in the U. S. and British Pharmacopeias and Contained in the National Formulary; Chemical and Therapeutic Information as to Mineral Springs of America and Europe, and Comprehensive Lists and Synonyms. By T. L. Stedman, A.M., M.D., Editor of "Twentieth Century Practice of Medicine" and the *Medical Record*. Leather. Price, $5. Pp. 1,000. New York: William Wood & Co., 1911.

This book presents a number of novel features. Attempt is made to use the etymologically correct terms, for instance, "oothecectomy" instead of "oophorectomy," "scolecoiditis" for "appendicitis," etc. This is in line with similar attempts made elsewhere. Derivations are given from the Anglo-Saxon as well as from Latin and Greek. Special attention is also paid to synonyms and to listing under the name of a part the scientific terms for various conditions associated with that part. Thus under "abdomen" are found the various terms for abdominal dropsy, examination, incision, pain, tumor, etc. Under "pain" are listed pains which may be felt in any part of the body. Under "uterus" are listed the various anomalies of development as well as the pathologic conditions to be met with in this organ. This is extremely useful to one who is at a loss for the proper word to be used as well as to secure a correct definition. The usual tables of arteries, muscles, nerves, etc., found in a dictionary, are contained in this volume. Eponymic terms are inserted as main titles and are defined under the proper name; a short biographical sketch is added in each case. The reduction in the number of hyphenated words will commend itself to many. The Basel nomenclature is followed throughout. All the preparations of the United States and the British Pharmacopeias and the National Formulary are included. Mineral springs are listed as well as their location, character of the water and indications for its use. Besides the regular medical terms, the dictionary includes dental, chemical, veterinary, botanical insurance, homeopathic and eclectic terms. Tables of elements, their symbols and atomic weights, thermometer scales, weights and measures, etc., are placed in the appendix. Special attention is paid to the etymology of words, and in the spelling of medical terms preference is given to the simpler forms. In words derived from the Greek the kappa is represented by the English "c." While this looks all right so far as "catalepsy" is concerned, it has a rather strange look in the word "caryocinesia." Daily use of the book has brought to light many good features, but every now and then a word or term is missed in it for which some other dictionary is consulted successfully. This, of course, is to be expected, as an absolutely complete dictionary, not encyclopedic in character, is out of the question. What one author will regard as an important word another will not consider as worthy of inclusion. On the whole, however, the author seems to have been judicious in his exclusions and the book therefore takes a high position as a reference "word-book" in medicine.

AMERICAN PRACTICE OF SURGERY. A Complete System of the Science and Art of Surgery. By Representative Surgeons of the United States and Canada. Editors: Joseph D. Bryant, M.D., LL.D., and Albert H. Buck, M.D., of New York City. Complete in Eight Volumes. Volume VIII. Cloth. Price, $7. Pp. 1146, with 406 illustrations. New York: William Wood & Co., 1911.

The eighth and last volume of this work will be welcomed by all who have been fortunate enough to have subscribed to it. In this volume are considered intrathoracic surgery, surgery of the spleen, surgical diseases and wounds of the kidneys and ureters, surgery of the pancreas, surgery of the liver, gall-bladder and biliary passages, surgical diseases, wounds and malformations of the urinary bladder and the prostate and surgery of the ovaries and Fallopian tube and the uterus, including extra-uterine pregnancy, Cesarean section, etc. The chapter on carcinoma of the uterus is particularly worthy of notice.

The work has been favorably commented on repeatedly in these columns as the various volumes appeared. This last volume is particularly noteworthy in that several subjects of interest to the surgeon are considered which heretofore have not been found incorporated in works of this kind. Of these we may mention an excellent chapter on "The Law in Its Relations to the Practice of Surgery" and one on "Administrative Surgical Work" which has subheads on hospitals and hospital management, military surgery, naval surgery and administrative railroad surgery. Closing the volume and work is an extensive index to all the volumes. The work as a whole reflects great credit on the individual authors, who usually receive but little of any recognition in composite works of this character. At the same time the editors are to be congratulated on having brought to a successful termination such an excellent exposition of the practice of modern surgery.

THIRD ANNUAL REPORT OF THE MICHIGAN ASSOCIATION FOR THE PREVENTION AND RELIEF OF TUBERCULOSIS. For Ten Months, March 1-Dec. 31, 1910. Containing Statement of Work Accomplished, Report of Convention at Ann Arbor, Report of Local Associations, State Needs, Work of Allied Societies, Report of Secretary and Treasurer. A Brief of the Ten Months' Work. Aldred S. Warthin, Secretary, Ann Arbor, Mich. Paper. Pp. 189.

This organization has adopted as its war cry: "No Tuberculosis in Michigan in 1920." This report reviews the work for 1910, and contains much interesting material and many illustrations. The reports on the publicity and educational methods used are particularly interesting.

Medicolegal

What Constitutes Vaccination and Form of Certificate Thereof that May be Required

(Lee vs. Marsh (Pa.), 79 Atl. R. 564)

The Supreme Court of Pennsylvania holds that the vaccination of school children required by the statute of that state is by inoculation, and that a form of certificate may be demanded showing that the certified vaccination of a child was by that method. The certificate of vaccination offered in this case stated that the physician signing it, after personal examination of the child named therein, certified that she had been successfully vaccinated. The form insisted on, under instructions from the department of health, was to the effect that on a certain date the physician vaccinated the child named, and on another date stated found a resulting sore, which in his opinion meant a successful vaccination. The vaccination in this case was by the giving of vaccine virus (triturated virus) through the alimentary canal, through the mouth, in a powder form.

The Supreme Court renders its decision on the opinion of the court below, which stated that the whole case really turned on what is the meaning of the term "vaccination," as used in the act of June 18, 1895, which prohibits the attendance of a child at school without a certificate of successful vaccination, or of its having had the small-pox.

The ordinary and usual meaning of "vaccination," and the sense in which it must be supposed to have been used by the legislature, is inoculation with the virus of cow-pox for the purpose of communicating that disease as a prophylactic against small-pox. It indicates an operation, and not a result. If a person should take cow-pox by milking cows, or otherwise, or from other contact with the disease, he could not be said to have been vaccinated. The operation is comparatively old, having been in use for over 100 years, and during that time has always consisted of inoculating the body—that is, grafting on it the disease by inserting the virus under the skin—and the test of its success has always been considered to be the appearance of the symptoms of the disease, including those which manifest themselves on the skin.

Still it appeared in this case that for some years past another method of guarding against small-pox has been in use, more or less extensively, which consists in attenuating to a high degree the virus of small-pox, or of cow-pox, the attenuation of the virus of small-pox being called variolinum, and that of cow-pox vaccininium, and administering one or the other of these substances by the mouth, and it was claimed that in this way there are produced in the body practically the same symptoms as are produced by vaccination, except the exterior and local inflammation, and that either of these methods has the same preventive virtue as ordinary vaccination. From what is known of the use of toxins of other diseases, this would seem to be possibly true; but whatever it may be, and whatever the result may be, it is not vaccination as the term is used in the act.

The term "vaccination," however, appears to be used by some physicians, at least, as a general term for the introduction into the body, by any method, of any kind of virus as a preventive of disease, and it is plain that in this case the physician who certified to the successful vaccination used the term in this general sense, and not in the sense of the act. In order, therefore, to guard against such ambiguous use of the term by which the act would be evaded, the health department, under the terms of the act of April 27, 1905, prescribed a form of certificate which would prevent such ambiguity, and the requiring of that form was really what is complained of in this case. It was strenuously argued that the authority given by the act of 1905 to the health department to fix forms of certificates is a delegation of legislative power, and if it were claimed to authorize that board to require safeguards against disease which the act does not substantially require, it would be open to that objection. But all the court understands the act of 1905 authorizes, and all that the department has done in this case, is to regulate the form of the certificate so as to prevent ambiguity, and to require the certifying physician to use words in the same sense with which they are used in the act.

For these reasons the court is of the opinion that the certificate required by the board of health was lawfully required by it, and that its use is obligatory.

May Testify in Will Cases as to Mental Condition

(In re Gray's Estate (Neb.), 130 N. W. R. 746.)

The Supreme Court of Nebraska holds that, in a contest over the probate of a will between the person therein named as an executor or a legatee and the heirs at law of the decedent, section 333 of the Code of Civil Procedure, forbidding the disclosure of privileged communications, does not prevent a physician from testifying on behalf of either side of the controversy to the mental condition of the testatrix, though the information which enables him to do so was acquired solely in his professional capacity while attending her during her last illness. The court says that the courts of the country are divided on this question, but this court has held that the statutory right of waiver extends to the personal representative of a deceased person. Then, may one class of representatives in a contest over the probate of a will waive the privilege to the exclusion of another class, where the respective rights of the disputants depend on the mental condition of a deceased person? Does the statute permit heirs at law to require a disclosure on part of the physician, if his patient was insane, and suppress the truth, if mentally competent? No such intention can be found in the statute or in the reasons for its enactment. If heirs at law to protect the property of their ancestor from an insane act and to obtain their own rights under the statute of distributions may require a physician to testify to the condition of his patient's mind, there is no reason why a legatee or an executor may not also call on him for the purpose of protecting the will and a legacy under it. Having held that the right to waive the statutory privilege extends to the personal representative of a deceased person, consistency and justice require a construction which permits an executor or a legatee to compel a physician to testify to the mental condition of his patient, when that question is involved in a contest with the heirs over the probate of the patient's will. The courts, however, have authority to protect the memory of deceased persons from objectionable disclosures.

County Societies Can Pass Certain By-Laws and Hold Members for Trial on Charges—Not Subject to Injunction

(Ewald vs. Medical Society of New York County, 128 N. Y., S. 886)

The First Appellate Division of the Supreme Court of New York holds that a member of a medical society is not entitled to an injunction to prevent his being tried on charges preferred against him where his resignation has not been accepted and the by-laws of the society provide that all resignations shall be in writing and shall be sent to the secretary and referred to the comitia minora at its first meeting after their receipt, and, if accepted, the member thereby severs all connection with the society, but no resignation shall be accepted from a member under charges.

The court says that, if he is still a member of the society, his suit for an injunction is premature, while it also may well be doubted whether equity will entertain jurisdiction at the suit of a non-member to restrain the proceedings of a membership corporation like the defendant society. But he may ignore the proceeding, and, if he is libelled, sue for damages.

Under the laws applicable thereto, the society not only had the power to expel for unprofessional conduct not directly involving the relations of the member as such to the society, but it also had the power to pass the by-law that no member should be permitted to resign under charges. Indeed, its relation to the public and to the profession is such that the mere severing of membership of one guilty of an offense meriting discipline would not serve its corporate purposes. County medical societies are much more than mere private corporations or social clubs. The scope of the original act of incorporation and of the subsequent acts relating to them shows that they were intended to discharge important duties to the public.

It seems plain, therefore, that a member on his admission to the society assumes an obligation, not only to conform to the rules and regulations of the society respecting his immediate relations to it, but as well to observe its standards of professional ethics, and that a breach of that obligation in any respect involves a violation of duty to the society. Certainly any discreditable act of a member in his professional relations tends to discredit the society. The plaintiff agreed on becoming a member to submit to the discipline of the society for any act unfavorably affecting "the character, dignity or interest of the medical profession, or of the society." The by-laws, rules and regulations of the society would have no sanction if its discipline could be evaded by a resignation.

It is probable that the defendant could not try a member while under suspension. But it could wait until the period of suspension expired, or it could revoke the suspension. Restoration is not the same as original admission to membership. After restoration, he probably could not again be tried on the charges on which he was suspended. But that would not affect charges entirely different.

A Communication Not Privileged

(Miller vs. Miller (Ind. App.), 94 N. E. R. 243)

The Appellate Court of Indiana, Division No. 1, holds that in this case, wherein a daughter sought to recover from the estate of her deceased mother for services rendered her mother before her death, that there was no error in permitting a witness who was a physician to testify that while at the home of the mother, on an occasion when professionally calling on her, she said to him, in the presence of the claimant, "that Ellen should be paid and well paid for the work she was doing there caring for her." The court says that the mother was at that time able to be up and around, and this conversation occurred in the sitting-room of her home. The objection urged against the admission of this evidence was that the communication was privileged, being a communication from a patient to her physician. But it did not appear that the statement to the witness was in any manner connected with the making of any examination of the patient, or in connection with any conversation with reference to her ailments or disease with which the patient was suffering or being treated, or in any manner pertaining to such physician's employment, or while any one was advising the claimant as to the care and attention the mother should receive. All persons are competent witnesses in a civil proceeding except as otherwise provided by statute. The Indiana statute provides that: "Physicians, as to matter communicated to them, as such, by patients, in the course of their professional business, or advice given in such cases," are not competent witnesses. Such matters are regarded as confidential communications between patient and physician, and are privileged without the consent of the patient. The fact about which the witness testified here was not a matter reasonably within the professional business of the physician, or about which he would be expected to give advice, or that it would likely be communicated by a patient to a physician as such, and was not privileged.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Philippine Journal of Science, Manila

June, VI, No. 3, pp. 165-258

1 Davainea Madagascariensis (Davaine) in Philippine Islands. P. E. Garrison, U. S. N.
2 Influence of Rice Diet and Inanition on Production of Multiple Neuritis of Fowls and Its Bearing on Etiology of Beriberi. W. P. Chamberlain, H. D. Bloombergh and E. D. Kilbourne, U. S. A.
3 Intestinal Parasites in Cavite Province. E. R. Stitt, U. S. N.
4 *Dysentery Bacillus with Bacteriologic Study of Epidemic of Bacillary Dysentery in Philippines. E. R. Whitmore, U. S. A.
5 Practical Experiences with Beriberi and Unpolished Rice in Philippines. V. G. Heiser, U. S. P. H. and M.-H. S.
6 Perineal Litholapaxy (Keith's Operation). A. Hooton, Rajkot, India.
7 *Clinical Study of Hookworm Infection in Philippines. L. Gomez, Manila.
8 *Etiology of Beriberi. W. P. Chamberlain and E. B. Vedder, U. S. A.

6. **Dysentery Bacillus.**—During an epidemic of bacillary dysentery in the Philippines, occurring in the summer of 1909, Whitmore was able to isolate dysentery and dysentery-like bacilli from the stools of a number of patients. He isolated a bacillus of the Shiga-Kruse type from twelve out of forty cases of severe, acute dysentery in natives of two towns of Batangas Province where there was an epidemic of acute dysentery with a high mortality. No other strain of the dysentery bacillus was found by him in that locality. He was able four times to isolate a bacillus of the Flexner-Strong type, and one of the Shiga-Kruse type once from sporadic cases of acute dysentery around Manila. Beside this, he obtained a large number of dysentery-like bacilli. These organisms were determined by the cultural characteristics, including their reactions in sugar media, their pathogenicity for lower animals, and their agglutination reactions with sera of animals immunized to known strains of the various types of the dysentery bacillus. The bacillus Y and the Strong type, with which Lentz worked, were not found. Whitmore says that great care is necessary in describing types of the dysentery bacillus from their reactions in sugar media alone, as the amount of sugar present and the length of time the organism has been on artificial media often affect the reaction.

7. **Uncinariasis in Philippines.**—This investigation was undertaken by Gomez mainly to determine the effect of the hookworm on Filipinos, and to determine whether there is any immunity enjoyed by the race comparable to that of the Negroes in Porto Rico, in the southern United States and in Africa. A series of twenty-six cases was studied clinically, and subjected to a careful examination of the blood and urine. In a few cases the hookworms were collected and counted. It has been Gomez' procedure to collect the stools in every case. Ten cases without hookworms but with other intestinal parasites were selected for study as controls.

Five of the twenty-six patients complained of a certain amount of pain in the stomach. The other symptoms, such as emaciation, a feeling of dizziness, pain in the joints, difficulty in urination, a sensation of oppression on the chest, tympanitis, neuralgic intercostal pains, or debility, can be attributed to other diseases such as malaria, tuberculosis, dengue fever, cystitis and nephritis. The vague pains in the stomach suggest the presence of hookworms, either alone or associated with other intestinal parasites, as their removal accompanying hookworm infection has been frequently observed by Rissler and Gomez. One particular instance was that of an assistant who complained of poor appetite and vague abdominal pains, and who was promptly relieved on the expulsion of hookworms. As compared with the control cases, eosinophilia is generally present in the patients harboring hookworms. Five out of ten, or 50 per cent., of the control cases gave an eosinophil count above 4 per cent. In patients infected with hookworm, twenty out of twenty-six, or 76 per cent., had eosinophils above 4 per cent. Only three of the controls had over 5 per cent., whereas in the hookworm series this figure was reached by twenty out of twenty-six of the cases. No control shows 13 per cent. or above, whereas nine (or 34 per cent.) of the patients harboring hookworms gave an eosinophil count of 13 per cent. or above. The lowest count in the control cases was 0.3 per cent., and the highest 12.80, whereas in the others the lowest was 0.3 per cent. and the highest 21.9. It was noted in the control series that individuals with *trichuris* or *ascaris*, or both together, hardly show any deviation from normal, those having high eosinophil counts harbored amebas or *tenia*. The percentage of hemoglobin in the control series varied from 80 to 95. In these patients infected with hookworm, the percentage was from 75 to 95.

The count of the red and white cells did not show any marked difference between the two series; the lowest for red cells in the hookworm cases was 4,000,000 per cubic centimeter, whereas in the control cases it was 4,500,000. In two instances, albumin was found in the urine but this occurrence can be attributed to nephritis which was independent of the hookworm infection. The number of hookworms recovered varied from one to twenty, this small number corresponding to the paucity of eggs found in the microscopic preparations. Gomez concludes that hookworm infection among the Filipinos corresponds to the light type of Stiles; that is, patients have the ova of hookworms in their stools, but no symptoms. The absence of all clinical manifestations or their insignificant characters among Filipinos infected with hookworms, Gomez says, cannot be attributed to a racial immunity, as the number of the infecting hookworm organisms in each instance is small.

8. **Etiology of Beriberi.**—A series of carefully conducted experiments on fowls has convinced Chamberlain and Vedder that polyneuritis gallinarum is not prevented by adding to a diet of polished rice any of the following substances: potassium phosphate, potassium citrate, potassium carbonate, potassium chlorid, magnesium phosphate, phosphoric acid, or phosphoric acid combined with potassium chlorid. The neuritis-preventing substance in rice polishings is soluble in cold water and in cold alcohol. Polyneuritis gallinarum may be prevented by means of an extract of rice polishings containing only those substances soluble in cold water and cold alcohol. Multiple neuritis in fowls fed on polished rice probably is not due to lack of phosphorus compounds in the grain, as claimed by Schaumann, since out of each 1,000 parts of phosphorus contained in the rice polishings at least 999 are not concerned in preventing neuritis. The neuritis-preventing substance contained in rice polishings is capable of dialysis through a parchment membrane. This excludes all colloids from consideration.

Journal of Iowa State Medical Society, Clinton

September 15

9 Typhoid Bacilli Carriers. H. Albert, Iowa City, Ia.
10 Proper Registration of Vital Statistics. G. H. Sumner, Des Moines, Ia.
11 Ethics of Practice. C. A. Boice, Washington, Ia.
12 Scientific Spirit in County Society. E. B. Brown, Beloit, Wis.
13 Medicine in Iowa from Its Early Settlement to 1876. D. S. Fairchild, Clinton, Ia.
14 Infectious Arthritis with Special Reference to Knee-Joint. W. H. Rendleman, Davenport, Ia.

Chicago Medical Recorder

September, XXXIII, No. 9, pp. 461-523

15 *Treatment of Puerperal Sepsis by Intravenous Injection of Mercuric Bichlorid. H. M. Stowe, Chicago.
16 Asiatic Cholera and Its Treatment. W. F. Waugh, Chicago.

15. **Treatment of Puerperal Sepsis.**—Stowe reports eleven cases of undoubted septicemia treated during the past four years by the intravenous injection of mercuric bichlorid in association with other treatment, with death following in five and recovery in six. In addition to these eleven cases of septicemia the mercury has been injected in three cases of pyemia. One woman died after seventy days. Of the other two patients one was treated with 2 grains of mercury after the ninth chill, the other with 1 2/5 grains after seven chills. Four additional chills followed the treatment, making eleven in all. In the first case, the blood was sterile after five examinations; in the second case streptococci were demonstrated in the blood-current. Stowe has given 185 injections of 1/5 grain of mercuric bichlorid in septic patients and has never seen any bad or toxic results therefrom. He says that intravenous medication offers the quickest, most accurate and most dependable method of drug administration. The reputed dangers of embolism are greatly over-estimated. Mercuric bichlorid is not the ideal drug to combat septicemia, but it has the advantages of being easily associated with other forms of treatment, is harmless in action and is worthy of trial in serious cases. Stowe warns to keep the teeth clean and to omit salines during the course of treatment. He emphasizes that experiments with other chemicals in the conflict against the streptococcus are greatly needed. By diligent investigation someone will find a substance which will overcome the streptococcus and its toxins and also prove harmless to the maternal organism.

Stowe says that generally speaking, local forms of sepsis are treated on the principle of watchful expectancy because the maternal powers are amply able to overcome the deleterious action of the bacteria and their toxins. No intra-uterine or vaginal douches are given, no curettement permitted and no internal examinations made; in fact, local therapy consisting of vaginal or uterine manipulations is not only useless, but are positively harmful in the great majority of cases. Many a woman owes a general extension of her sepsis to malicious local therapy. It is only necessary to assist the maternal powers in their conflict against the streptococcus, the most common as well as the most serious pathogenic organism. This assistance is afforded by placing the patient in Fowler's position to facilitate drainage, ergot and hydrastis to prevent extrauterine migration of the bacteria and to promote an otherwise retarded uterine involution, and continuous ice-bags on the abdomen for the relief of pelvic pain. In cases of parametritis, when exudation is pronounced, the patient is kept in bed for several days after the pain, temperature and other signs of the acute process have subsided. If fever or pain return after the woman leaves her bed, she must return at once; otherwise, the exudate may suppurate and form a pelvic abscess. These abscesses should not be opened until they are easily accessible by way of Douglas' cul-de-sac, never through the abdomen, and when the peritoneal cavity is sufficiently protected by adhesions from the suppurating focus. A premature surgical procedure is always associated with the danger of general peritoneal involvement.

Journal of Missouri State Medical Association, St. Louis

September, VIII, No. 3, pp. 97-134

17 Obstruction of Male Urethra: Report of Cases. H. J. Scherck, St. Louis.
18 Civil Malpractice. E. J. White, Aurora, Mo.
19 Pathology of Exophthalmic Goiter. R. L. Thompson, St. Louis, Mo.
20 Obstructions of Upper Urinary Tract. J. Block, Kansas City, Mo.
21 Diagnosis of Hyperthyroidism. W. W. Graves, St. Louis, Mo.
22 *Surgical Treatment of Exophthalmic Goiter. W. Bartlett, St. Louis.

22. **Surgical Treatment of Exophthalmic Goiter.**—Of Bartlett's operations for this disease, forty-five were partial thyroidectomies. Two of these patients died (4.44 per cent.); thirty-two (71 per cent.) are in splendid condition at periods varying from a few weeks to seven years after the operation. Bartlett does not advise thyroidectomy on advanced patients unless a preliminary hospital treatment, consisting of rest in bed, atropin and the application of ice to heart and throat alters the condition to the point that he considers them fair surgical risks. If they are properly chosen, an anesthetic is dispensed with, no blood is lost and no shock produced; surely very little is added to the inherent danger of the disease and in this way a vast amount is accomplished. Bartlett operates under local anesthesia.

Old Dominion Journal of Medicine and Surgery, Richmond

September, XIII, No. 3, pp. 151-207

23 Pelvic Infections and Their Relation to Inflammatory Diseases of Pelvic Structures. J. W. Long, Greensboro, N. C.
24 *Spurious Pregnancy. J. S. Clifford, Charlotte, N. C.
25 Pylorospasm, Its Chief Causes. E. R. Hart, Suffolk, Va.
26 Chronic Gastritis. J. R. Verbrycke, Washington, D. C.
27 Gonorrhea in Female. W. C. Powell, Petersburg, Va.

24. **Spurious Pregnancy.**—In Clifford's case the woman's menstruation ceased Aug. 10, 1908. She believed that she had conceived and had no disagreeable symptoms. The abdomen enlarged progressively, and the patient stated that she felt movements about Christmas. Early in February she complained of the activity of these movements, and for the first time grew nervous and worried over the tediousness of her state. Clifford saw her Feb. 4, 1909, and with the exception of a marked anemia, found the patient in good condition. A symmetrical tumor at the level of the umbilicus was palpated, but the fundus of the uterus was not determined, nor were the fetal heart sounds and other positive signs of pregnancy present. On February 23 permission to administer an anesthetic was given, and as soon as consciousness was lost the tumor disappeared and a slightly enlarged uterus, with a soft patulous cervix was palpated. With the withdrawal of the anesthetic the swelling returned, and the symptoms enumerated above reappeared. The patient insisted that she still felt fetal movements that annoyed her greatly, and her nervousness became so marked that it was decided to perform a curettement. This was done March 10, 1909, and only some catarrhal endometrium was found in the scrapings. Satisfied now that the uterus was empty, the patient did not complain and the abdomen remained normal, the anemia present readily responded to treatment and the nervousness cleared up gradually. Menstruation returned June, 1909, and continued regular until November, 1909. Jan. 9, 1910, a two-months' pregnancy was terminated unavoidably caused by a fall on an icy side-walk. Placental debris was found in the discharge at this time; menstruation did not again appear, and on Nov. 22, 1910, Clifford delivered this woman of a normal female baby.

Western Medical Review, Omaha

September

28 Heredity. A. E. Mack, Omaha, Neb.
29 Two Cases of Subparietal Injuries of Kidneys. B. B. Davis, Omaha, Neb.
30 Etiologic Relation of Food to Degenerative Diseases. W. F. Milroy, Omaha.
31 Recent Advances in Syphilology. A. Schalek, Omaha, Neb.
32 Tonsil Resection by General Surgeon. C. E. Slagle, Alliance, Neb.

Military Surgeon, Washington

October, XXIX, No. 4, pp. 361-479

33 Typhoid in National Guard, Investigation of an Epidemic. A. McGlannan and W. P. Morrill, Baltimore.
34 Malformations and Monstrosities in Army Medical Museum. D. S. Lamb, Washington, D. C.
35 *Epidemic of Measles at Columbus Barracks, Ohio. Manner of Transmission of the Disease. A. C. Christie, U. S. A.
36 Report of Camp Wilhelm, Tayabas, P. I. W. A. Powell, U. S. A.
37 Case of Alkaptonuria and Ochronosis. P. M. Ashburn, U. S. A.

35. **Epidemic of Measles.**—Since the 24th of last December there have been 183 cases of measles at Columbus Barracks. During the first month and a half the disease ran a very mild course, with few complications and those not serious. Up to February 16 there were seventy-six cases of measles, two of them being complicated with bronchopneumonia, three with otitis media, and one with plastic pleurisy; none of these cases was severe and all of them made good recoveries. About the middle of February the disease suddenly assumed a serious aspect and many of the cases had severe complications. There seems to be no way to explain this sudden change in the character of the disease. The patients were isolated in roomy wards, well ventilated but kept at an even temperature, and with sufficient moisture present. That there was an increase in the virulence of the infection is indicated by the fact that during this latter part of the epidemic many cases were seen to be serious from the start. Even during the catarrhal stage there was great prostration, very serious bronchitis, and early tendency to lung involvement. The first death occurred on Feb. 16, and since that time there have occurred 107 cases of the disease with a total of sixteen deaths. The last death occurred on April 1, and since that time there have been only a few cases and none of them serious. The death-rate for the entire epidemic is 8.2 per cent.

The following complications occurred during this epidemic: bronchopneumonia, 23; pleurisy with effusion, 11; otitis media, 13; mastoiditis, 3; meningitis, 1; pericarditis with effusion, 3; abscess of lungs, 2; 1 with appendicitis as an intercurrent disease, was operated on and made a good recovery. At autopsy one patient was found to have a large tuberculous abscess in the apex of each lung, and two had healed tuberculous nodules.

Death was caused in four cases by bronchopneumonia alone; in one case by meningitis; in four cases by bronchopneumonia and pleurisy with effusion; in one case by empyema, which proved fatal in spite of rib resection and thorough drainage; two cases with bronchopneumonia and multiple abscesses in the lungs; one case with bronchopneumonia and tuberculous abscesses; and two cases with bronchopneumonia, pleurisy with effusion, and pericarditis with effusion.

Otitis media was a complication in 7 1 per cent. of the cases. In those cases in which the discharge was at all persistent, an autogenous vaccine was made and proved a very efficient aid to the treatment. Mastoid disease was a complication in three cases; in all three a thorough mastoid operation was done; two of the patients recovered and the other died with meningitis.

Journal of Oklahoma State Medical Association, Muskogee

September

38 Cause and Prevention of Cancer. L. F. Watson, Oklahoma City, Okla.
39 Joint Manifestations of Hemophilia. C. S. Neer, Vinita, Okla.
40 Look Ahead. A. K. West, Oklahoma City.
41 *Varicella.* J. F. Duckworth.
42 Early Diagnosis of Tuberculosis. P. H. Anderson, Anadarko, Okla.
43 Indigestion from Surgical Point of View. L. Long, M'Alester, Okla.

Surgery, Gynecology and Obstetrics, Chicago

September, XIII, No. 3, pp. 245-362

44 Esophagoscopy and Gastroscopy. H. H. Janeway and N. W. Green, New York.
45 Merits of Suprapubic Prostatectomy. J. B. Squier, New York.
46 Cure of Prostatic Obstruction. H. H. Young, Baltimore.
47 Perineo-Urethral Prostatectomy. W. T. Belfield, Chicago.
48 Results Following Perineal Prostatectomy. P. Syms, New York.
49 Series of Unusual Cases with Pathologic Conditions Outside of Bladder, Probably Appendical Abscesses, Causing Marked Vesical Symptoms. L. E. Schmidt, Chicago.
50 Diverticula of Urinary Bladder, Special Reference to Röentgen Ray Diagnosis. J. M. Garratt, Buffalo, N. Y.
51 Urinary Bladder Disturbances Due to Inflammatory Changes in Prostate and Seminal Vesicles. I. S. Koll, Chicago.
52 Topography of Ureter as Determined by Shadowgraph Catheter. L. E. Schmidt and H. L. Kretschmer, Chicago.
53 *Renal Decapsulation in Eclampsia. H. Ehrenfest, St. Louis, Mo.
54 *Consideration of Renal Anomalies. W. A. N. Dorland, Chicago.
55 *Sigmoid in Its Relation to Pelvic Disease. C. W. Barrett, Chicago.
56 Operative Treatment of Carcinoma at Fundus of Bladder. F. R. Hagner, Washington, D. C.
57 Case of Cystitis, Multiple Ulcers, Cured by Excision of Ulcers. F. R. Hagner, Washington, D. C.
58 Case of Urinary Suppression Treated by Catheterization of Kidney Pelvis. F. C. Walsh, San Antonio, Texas.

53. **Renal Decapsulation in Eclampsia.**—Ehrenfest draws from his experiments the following conclusions: 1. The immediate effect of decapsulation is a temporary suppression of secretory function in the operated kidney, and a distinct reflectory retardation of diuresis also in the other kidney, at time probably amounting to a complete anuria. This reflectory effect is also exerted on a kidney decapsulated forty-eight hours previously, but possibly to a smaller degree. 2. From twenty-four to forty-eight hours after the operation a decapsulated kidney shows approximately the same secretory activity as the non-decapsulated kidney of the same animal. 3. Between twenty-four and forty-eight hours after decapsulation the diuretic effect of an intravenous saline transfusion or of an artificial acute rise of blood-pressure is identical in the decapsulated and non-decapsulated kidney [illegible] the same animal. 4. In an apparently healthy dog a kidney, decapsulated for more than twenty-four hours, does not show any noticeable difference from the other kidney in regard to its secretory function under normal or artificial conditions.

54. **Renal Anomalies.**—The two cases reported by Dorland are: 1. Mural kidney, situated in a pocket of peritoneum on the anterior abdominal wall, left lower quadrant. The organ was one-third of the normal size, having a small ureter which perforated the bladder-wall in the usual situation, so that the normal shape of the vesical trigone was not altered. The ectopic kidney was normal in shape, but showed slight lobulations, the latter not being nearly so marked, however, as they frequently are in normally situated and fully developed kidneys. A careful dissection proved that the vascular supply of the ectopic organ was derived from a branch of the internal iliac artery, with a corresponding vein emptying into the internal iliac vein. The adrenal was not in evidence. The ureter, which in common with the vessels perforated the kidney at the hilum, which was directed inward and downward toward the median line, was about half the usual size. Section of the ectopic organ discovered typical renal tissue, although the pyramids were not as sharply defined as in a normal kidney. There was no kidney nor adrenal body in the normal situation on the left side, nor were ureter or renal vessel to be found on that side, nor vestiges that might indicate an attempt at renal formation. The right kidney, adrenal body, and ureter were normal in size and appearance and were normally vascularized. The second case was one of horseshoe kidney with fusion of the upper extremities with concavity directed anteriorly.

55. **The Sigmoid and Pelvic Disease.**—Barrett emphasizes that the intimate relation of the genital tract to the terminal reservoirs of the urinary and alimentary tracts permit of easy communication of disturbances and pathologic conditions. The sigmoid through its ready adhesions may, like the omentum, serve to wall in a genital infection and save the patient, after which it may, through perforation, serve as a means of escape for this infection and the resulting pus, or, by reason of adhesions, it may introduce new elements of danger through colon bacilli infection and bowel obstruction. The symptoms of constipation, diarrhea, passage of mucus or blood, the presence of a sausage-like mass in the left iliac fossa, etc., should, he says, lead us more frequently to include the pathologic conditions of the sigmoid in our pelvic diagnosis, especially when there seem to be adhesions on the left side. The associated sigmoidal conditions are undoubtedly primary, in many instances, as they are found in men although adhesions here may be due to infections of the vas but are also very frequently secondary to the disease of the tubes, ovaries and uterus, as they are frequently observed after definite infections of this tract.

Ohio State Medical Journal, Columbus

September, VII, No. 9, pp. 521-568

59 Proctology. S. T. Earle, Baltimore, Md.
60 *Surgical Aspects of Painful Indigestion. G. W. Crile, Cleveland.
61 Expert Testimony. G. Stockton, Columbus.
62 Blindness and Its Prevention. L. Stricker, Cincinnati.
63 Diminution of Morbidity of Parturition. G. B. Booth, Toledo.
64 *Medical Inspection of Public Schools. M. Coplan, Cleveland.

60. Abstracted in THE JOURNAL, June 10, 1911, p. 1749.

64. Abstracted in THE JOURNAL, May 27, 1911, p. 1601.

St. Louis Medical Review

September, LX, No. 9, pp. 257-288

65 Man as a Geologic Species in Western Hemisphere. A. S. Ashmead, New York.
66 Hyperinosis the Cause of Death in Chronic Parenchymatous Nephritis. A. Memminger, Charleston, S. C.
67 Surgical Treatment of Gonorrheal Pus Collections in Female Pelvis. A. Brothers, New York.
68 Inversion of Everted Lip. C. G. Miller, Chicago.
69 Different Forms of Vulvo-Vaginitis in Children: Treatment. O. Maier, New York.
70 Pathology and Etiology of Varicocele, with Abridged History of Surgical Treatment. C. A. Pfender, Washington, D. C.
71 Digitalin in Failing Kidneys. J. M. Taylor, Philadelphia.
72 *Simple Treatment for Corns. E. Griffith, New York.

72. **Treatment for Corns.**—In the method described Griffith depends on the macerating power of ordinary adhesive plaster to effect the result sought. A strip of this material from ⅜ to ½ inch (1 cm.-1.25 cm.) in width and 4 to 6 (10 cm.-15 cm.) inches long is to be applied in spiral fashion to the affected toe covering the digit from neck to nail. The degree of tightness of the application deserves consideration to avoid compression. However, the feelings of the patient when stepping on the foot will serve as an adequate guide in this matter. Instructions to cut through the plaster lengthwise or to soak off the entire dressing by immersion in a hot water foot bath affords ample protection in cases of undetected microbic infection. Soaking the foot for ten to twenty minutes in water at a temperature of 100 F., with gentle removal by rubbing with a piece of sterilized pumice stone or forceps of the crown of hardened epidermis shortens the time of treatment. Griffith contends that properly applied the dressing described should afford relief from the moment of its application, and may be worn continuously for from one to six or eight weeks, bathing seeming to unaffect the adhesive properties of the plaster after once having set. Removal of the dressing at the end of an adequate time reveals the cornus completely freed, when it may be picked out entire by means of a dressing forceps or after an additional soaking. A wisp of absorbent cotton held on by means of a narrow adhesive strap may be subsequently worn for a few days.

Lancet-Clinic, Cincinnati

September 23, CVI, No. 13, pp. 303-328

73 Surgery of Pleura: Pleurotomy, Pleurectomy, Pleurorrhapy. B. M. Ricketts, Cincinnati.
74 Case of Embolism of Superior Mesenteric Artery. H. H. Hines, Cincinnati.

Canadian Medical Association Journal, Toronto

September, I, No. 9, pp. 805-917

75 Cancer of the Stomach. H. A. Bruce, Toronto.
76 *Etiology of Cholelithiasis, Special Reference to Age-Incidence. E. S. Ryerson, Toronto.
77 *Extirpation of Thyroid in Monkeys. J. Halpenny and J. A. Gunn.
78 Graduated Dilatation of Uretero-Vesical Orifice and Ureter Above It. H. A. Kelly, Baltimore.
79 Modern Aids to Diagnosis in Otology; Their Significance. J. F. McKernon, New York.
80 *Surgical Treatment of Cholelithiasis. W. J. Mayo, Rochester, *Minn.*
81 Primary Tumors of Bladder. W. Hutchinson, Montreal.

76. **Etiology of Cholelithiasis.**—In 145 cases of cholecystitis studied by Ryerson, gall-stones occurred in 55.8 to 58 per cent. of patients between the ages of 15 and 45. Adding to the above the number of cases in which symptoms started in that period, the percentage is increased to 65. Ryerson found that typhoid, which is recognized as one of the exciting causes of gall-stone formation, occurs most often in the early part of that period, and that the conditions of pregnancy and fibroids of the uterus, which are known to be commonly associated with gall-stones, are most common at that time of life. Gall-stones are not found at autopsy in any larger proportion of cases after 45 than before that age. Ryerson suggests that if gall-stones are formed as the result of a chronic infection of the gall-bladder occurring most commonly between the ages of 15 and 45, why should we not try to overcome this infection? We know that if a gall-bladder is emptied of stones and drained for a short period of time, that stones very rarely reform, as the cause of their formation, chronic infection, has disappeared. If this is the case, why should we not take the same steps when we know that a chronic cholecystitis is present, which will ultimately result in the formation of gall-stones? Will the patient ever get rid of the infection if we do not drain his gall-bladder?

The anatomic arrangement of the cystic duct, on account of the infolding of the mucous membrane in the form of valves in the interior, is of such a character that it is questionable whether it can provide sufficiently free drainage to the gall-bladder to rid it of its infection. The fact that we know that there exist "typhoid carriers" in whom the typhoid bacilli have been found in the gall-bladder twenty and even thirty years after infection, also shows us that this infection of the gall-bladder tends to persist unless steps are taken to relieve it. Not infrequently, in operating on the abdomen for symptoms suggestive of gall-bladder trouble, if the surgeon cannot palpate stones in the interior of the gall-bladder or in the ducts, he closes the abdomen without opening the gall-bladder. The symptoms of chronic cholecystitis are so closely identical with those of cholelithiasis that the gall-bladder, although showing no stones or peritoneal changes, such as adhesions, should invariably be opened and drained in such cases.

He considers the simple operation for uncomplicated gall-stones, with its mortality of 5 per cent., to be an entirely justifiable procedure as a means of preventing the years and years of symptoms which gall-stones are known to cause. He predicts that the day is surely not far distant when we shall advise immediate drainage of the gall-bladder, not only for gall-stones, but also for chronic cholecystitis, such as that complicating typhoid or other intestinal infection, and by so doing prevent the formation of gall-stones, with their years of chronic indigestion, repeated attacks of biliary colic and irritation resulting in malignant disease.

77. **Extirpation of Thyroid in Monkeys.**—The thyroid and parathyroids were extirpated by Halpenny and Gunn in eight monkeys. Briefly, the results were as follows: Experiment 1.—Remained well for three days; died on the sixth day, having shown no symptoms other than slight tremor and listlessness. Exp. 2.—Remained well for four days when some stupidity and paresis were observed. On the twelfth day there was some puffiness of the face. At no time was there any tremor or pronounced tetany observed. Died on the seventeenth day. Exp. 3.—Symptoms of tetany on the third day. Died on the seventeenth day in an emaciated condition. Exp. 4.—Had typical tetany on the seventh day. Died greatly emaciated on the eighteenth day. Exp. 5.—Typical nervous symptoms on the thirteenth day. This condition lasted with intermissions for five days. The animal then practically recovered and remained in good health till the sixty-third day, when paresis again occurred. On the seventy-first day it was found in a comatose condition, when a small dose of thyroid extract was given. After a few hours tetany supervened. The animal died the following day, seventy-two days after operation. Exp. 6.—No symptoms of any kind were observed till seventy-one days after the operation, when there was some malaise and loss of appetite. The monkey got steadily feebler and more apathetic until the eighty-first day, when it died, having shown no specific nervous symptoms. Exp. 7.—Remained well till the fifth day, when slight nervous symptoms came on. Remained in a state of moderate feebleness till the thirty-sixth day, when it had a distinct attack of tetany. From this the animal did not recover and died on the following day. After the final attack of tetany, a small dose of thyroid was administered. Exp. 8.—Symptoms similar to those of No. 7. On the thirty-sixth day the monkey was in a comparatively good state of health, although by no means free from symptoms. Three fairly large doses of thyroid extract were administered at intervals of several hours. Acute tetany supervened and the animal died on the fortieth day.

80. Abstracted in The Journal, July 15, 1911, p. 244.

New York State Journal of Medicine, New York

September, XI, No. 9, pp. 439-450

82 *Treatment of Intestinal Tuberculosis. S. G. Gant, New York.
83 *Developmental Defects of Abdominal Viscera and Their Surgical Significance. W. F. Campbell, Brooklyn.
84 *Precancerous Stage. P. Syms, New York.
85 *Rôle of Physicians in Prevention of Insanity. A. W. Ferris, New York.
86 Arteriosclerosis, or Cardiovascular Disease. L. F. Bishop, New York.
87 Misinterpretation of Cardiac Pain. A. Lambert, New York.
88 Treatment of Tumors of Urinary Bladder with Oudin High-Frequency Current. E. Beer, New York.
89 Experience of Army with Vaccination as Prophylactic Against Small-Pox. J. V. Hoff, U. S. Army.
90 Diagnosis and Treatment of Tropical Infections. *S. M. Shook*, U. S. Navy.
91 Etiology and Treatment of Certain Forms of Periodical Headaches. N. A. Pashayan, Schenectady, N. Y.
92 Bladder and Prostate. J. F. W. Whitbeck, Rochester, N. Y.

82, 83, 84 and 85. Abstracted in The Journal, May 20, 1911, pp. 1506 and 1507.

Colorado Medicine, Denver

September, VIII, No. 9, pp. 297-336

93 Duties and Attitude of Medical Profession to Public. W. H. Swan, Colorado Springs, Colo.
94 *Modification of Torek Combined Operation for *Removal of* Appendix and Cure of Right Inguinal Hernia. H. M. Cohen, Denver.
95 *Apical Pregnancy. C. B. Ingraham, Denver.

94. **Modification of Torek Combined Operation.**—Cohen's modification of Torek's operation deals with the disposal of the neck of the hernial sac. After the appendix has been removed and the peritoneum over it sutured, the ends of the suture uniting this portion of the peritoneum are left long. The peritoneum around the neck of the hernial sac is now bluntly loosened for a distance of about ¾ of an inch. Through the opening in the internal oblique and transversalis over the appendix, a forceps is bluntly pushed along between peritoneum and muscle until the neck of the hernial sac is grasped. The sac is then dislocated upward and tied with the ends of the peritoneal suture, which have purposely been left long. In this way the neck of the sac is not only doubly ligated, but is also dislocated by pulling it away from the weak internal ring, thereby more positively guarding against a recurrence of the hernia. Cohen has used this method in but two cases, both resulting in positive cures.

95. **Apical Pregnancy.**—In Ingraham's case the placenta was found situated in the right uterine cornu, extending two-thirds the distance on the right wall of the uterus. This was detached, broken up and removed with the ovum forceps. The right wall of the uterus was thin and pouched, the left wall was distinctly thicker. No septum as in a uterus bicornis unicollis was palpable. The morcellated fetus when reconstructed was 16 cm. in length, showing the pregnancy to be about four months in duration.

Journal of Minnesota State Medical Association and Northwestern Lancet, Minneapolis

September 15, XXXI, No. 18, pp. 429-454

96 Fractures of Long Bones and Principles of Treatment. J. W. Freeman, Lead, S. D.
97 Some Essential Differences Between Common Surgical Affections of Infancy and Childhood and Similar Conditions in Adults. H. B. Smith, Fargo, N. D.
98 Royal London Ophthalmic Hospital Clinic. S. E. Kerrick, *Minneapolis.*

Pennsylvania Medical Journal, Athens

September, XIV, No. 12, pp. 927-988

99 Postoperative Psychoses. J. H. W. Rhein, Philadelphia.
100 *Proper Use of Adhesive Plaster. P. G. Skillern, Philadelphia.
101 Empyema of Sinus Maxillaris. J. P. Tunis, Philadelphia.
102 Prophylaxis of Cancer. D. Guthrie, Sayre.
103 Hygienic Errors in Rural Schools. H. W. Knight, Rutland.
104 Professional Fellowship. J. J. Coffman, Scotland.
105 *Coincident Intra- and Extra-Uterine Pregnancy. B. C. Hirst, *Philadelphia.*
106 Campaign Against Tuberculosis in Pennsylvania. T. H. A. Stites, Harrisburg.
107 Latest Military Sanitation, as Practiced at Mt. Gretna. S. P. Heilman, Heilman Dale.

100. **Proper Use of Adhesive Plaster.**—In applying adhesive plaster directly to the skin Skillern takes pains to shave the hair. If the part has not been shaven, painful removal of the plaster is obviated by using refined medicinal benzin; it is cheap, antiseptic and cleansing, and rapidly volatile. Like turpentine, it is antiseptic, thus diminishing infection of hair follicles, and it readily dissolves the zinc oxid and removes the dirt which collects around the edges of the plaster. Often small pustules are exposed on removal of the plaster. Skillern finds that these may often be prevented by sterilizing the skin, even though imperfectly, with dilute alcohol, iodid of mercury or formaldehyd in solution, before applying the plaster, the idea being to sterilize as far as possible the hair follicles and sebaceous glands, through which bacteria commonly infect the skin. He believes the custom of storing strips on the wall within handy reach of the surgeon accounts to some extent for these little infections. To obviate this he prefers to tear strips himself from the original 5-yard roll, as this is much cleaner and permits the proper adaptation of the length and width of the strip to the case under treatment. Better retention is obtained by using a few broad, stout strips in place of many narrow ones, and the length of the strip should be gauged by the weight of the dressing. On immovable parts of the skin he uses, when possible, the flexible collodion and cotton-cocoon dressing, but on movable parts, such as the neck, this is stiff and annoying.

When applied to retain bandages in place, rubber adhesive-plaster strips may be used; as a rule, the narrower the better. Strips 3/16 of an inch in width usually suffice, are economical and more readily moulded to the part. These are best applied by simply following the turns of the bandage, which on the extremities usually describe a figure-of-eight. On cylindrical parts, such as digits and stumps, Skillern applies the strips so as to imitate the staves and hoops of a barrel. Where turns cross approximately at right angles to each other, as in the spica of the groin or shoulder and particularly in head bandages, far better retention is obtained by inserting pins so as to include the layers. This insures against vertical turns slipping sideways and horizontal turns slipping up or down. Strips may then be so adjusted as to cover the pins to prevent accidental scratches. In the skull-cap bandage he applies the coronal strips first, securing their ends by lateral fronto-occipital strips, it being important to place the latter strips well below the external occipital protuberance.

He has found the secret of retaining the spica bandage of the groin to lie not only in placing the ascending turns above the iliac crest, but in inserting pins through the cross layers and ½-inch strips of adhesive plaster at both edges of the bandage, and throughout its entire length. It is most important to place the inner strip as close as possible to the origin of the adductor longus tendon, much better retention being obtained in this way. If a wet dressing has been used it is necessary, and in any event always desirable, to interpose waxed paper between the gauze and the cotton compress which Skillern invariably places under the bandage to equalize the circulation.

105. **Coincident Intra- and Extra-Uterine Pregnancy.**—The history of Hirst's case is as follows: Mrs. M., aged 32, married ten years, two children; one miscarriage four years ago. Menses regular but scanty and short in duration; in January unusually scanty; in February a week late. *Patient had* had pain in ovarian region for some time but for last two weeks very severe and of a colicky character. A vaginal examination revealed a large tubo-ovarian mass on the right side and in Douglas' pouch. Diagnosis was ectopic gestation. An operation was performed the following day. Free blood in abdomen and right-sided tubal gestation were found. Ten days after operation there occurred an abortion of a six-weeks' embryo and sac from the uterus. The patient recovered.

Boston Medical and Surgical Journal

September 21, CLXV, No. 12, pp. 431-468

108 Progress and Tendencies in Practice of Medicine. O. H. Howe, Cohasset, Mass.
109 Reminiscence of My Professional Life. D. W. Cheever, Boston.
110 Some Comments on Results of Operative Measures for Knee Affections. H. W. Marshall and L. A. O. Goddu, Boston.
111 New Combination Mouth Gag and Tongue Depressor. R. A. Coffin, Boston.
112 What Is a Tuberculosis Sanatorium? E. O. Otis, Boston.

September 28, XV, No. 13, pp. 469-504

113 *Mechanism of Pressure in Production of Vertigo: Report of Cases. C. J. Blake, *Boston.*
114 Value of Lumbar Puncture in Treatment of Aural Vertigo. J. J. Putnam, Boston.
115 Cancer of Colon. H. Gage, Worcester.
116 Surgical Treatment of Pyloric Stenosis: Report of Cases. S. W. Goddard, Brockton.
117 Reminiscence of My Professional Life. D. W. Cheever, Boston.

113. **Mechanism of Pressure in Production of Vertigo.**—In cases of recurrent vertiginous attack with inadequate evidence of an intralabyrinthine or of an accessible extrinsic pressure factor, it seemed desirable to Blake to test the effect, on the line instituted by Babinski, of decrease of intracranial and, correspondingly, of intralabyrinthine pressure by some means which would leave the auditory apparatus intact, an additional incentive to such a series of investigations being previous experiences in disturbances of intralabyrinthine pressure, incident to investigations in regard to the removal of the stapes. Under these considerations, in a series of adult cases in which the extrinsic pressure factor was at a minimum, or absent, lumbar puncture was practiced with results thus far sufficiently favorable to warrant a continuation of the investigation. In no instance were there more unfavorable consequences than severe headache of several days' duration in three instances; in all of the patients treated there has been a temporary amelioration of the condition, and, in the majority, entire relief from the vertiginous attacks, during a period of from a few months to three years, the latter being the major limit of observation.

In two cases in which the attacks recurred within a year the onsets were less severe and the complex incomplete, and a repetition of the lumbar puncture was followed by entire relief up to the date of the last observation.

In all instances the withdrawal of fluid ranged from 10 to 15 c.c., and the cases were kept under immediate observation for several days.

New York Medical Journal

September 30, XCIV, No. 14, pp. 665-712

118 Apollyons. W. B. Konkle, Montoursville, Pa.
119 Series of Studies of Nervous Affections in Relation to Adjustments of Eyes. G. T. Stevens, New York.
120 Report of Psychotherapeutic Clinic at Cornell Dispensary. H. W. Frink, New York.
121 Twilight Talks with Doctor. G. F. Butler, Chicago.
122 Headache. W. Taylor, Atlanta, Ga.
123 Music as a Therapeutic Agent. J. Knott, Dublin.
124 Proctoclysis; New Apparatus for Its Administration. A. E. Isaacs, New York.
125 An Address to Nurses. J. M. Ferrer, New York.

Medical Record, New York

September 30, 80, No. 2134, pp. 659-708

126 *Climatic and Hygienic Influences of Forest Growth. J. M. Anders, Philadelphia.
127 *Prevalence of Intestinal Parasites Among Immigrants. H. M. Manning, Washington, D. C.
128 Treatment of Anemic Enteroptotic Dyspepsia. C. F. Peckham, Providence, R. I.
129 Alcoholism as Complicating Factor of Anesthesia. F. H. McMechan, Cincinnati.
130 *Tinea Versicolor in Three Sisters. F. C. Knowles, Philadelphia, and E. Corson, Cynwyd, Pa.
131 Significance of Relapses. O. L. Mulot, Brooklyn.
132 Case of Perisinus Abscess, Suppurative Lateral Sinus Thrombosis, Jugular Ligament; Recovery. C. D. Van Wagenen, New York.
133 Case of Chylangiomata. C. P. Farnsworth and W. T. Lindsay, *Chamberlain, S. D.*
134 Strangulation of Uterine Fibroid by Torsion of Pedicle. F. B. McCreery, New York.

126. Abstracted in The Journal, Aug. 5, 1911, p. 502.

127. **Intestinal Parasites Among Immigrants.**—Of the 412 immigrants of all nationalities examined by Manning 166, or 40.2 per cent., were infected with one or more intestinal worms. Of the 282 males 115, or 40.7 per cent., and of the 130 females 51, or 38.4 per cent., were infected. Ninety-one, or 22 per cent., were *infected with Trichuris trichiura*, of whom 68 were males and 23 females, giving the rates of 24.1 and 17.6 per 100, respectively. The rate of infection with this parasite was highest among those from Russia; the rates for the different countries were 18.1 per 100 for Austria-Hungary, Greece 20.9, Italy 22.2, Russia 32.3, and Turkey 15 per 100. It was the most frequent parasite found among those from Austria-Hungary and Greece, and among these the males were more frequently *infected than the females.*

The *Ascaris lumbricoides* was present 118 times, or 28.6 per 100. Among the males 80, or 28.3 per cent., and among the females 38, or 29.2 per cent., were infected with this worm. The rates for the different nationalities were: Austria-Hungary 15.1, Greece 18.6, Italy 43.5, Russia 34.2, and Turkey 28.3 per 100. Italy showed the highest rate for this parasite. This is the most frequent parasite found and occurs more frequently among the females than the males, although Italy, Russia and Turkey show a higher rate for the males.

Only 1 *infection with the Oxyuris vermicularis* was found, but no doubt the reason for not finding it more frequently was due to the rarity with which the eggs are found in the feces.

Two cases of infection with the *Strongyloides stercoralis* were found, 1 in an immigrant from the British West Indies and 1 from Russia. The rate of occurrence of this parasite for *all immigrants examined* was 0.48 per 100. Both of these cases were in males, and in the case from the West Indies his anemic condition suggested the suspicion of hookworm infection, but after repeated examination of several fresh stools, no ova were found, but numerous larvæ of the Cochin China worm.

The Italian boy infected with the *Ankylostoma duodenale* was the only case of hookworms found. The rate of occurrence of this parasite among all the immigrants examined is .24 per 100.

Seven infections with tapeworms were found, 1 a case of infection with the *Dibothriocephalus latus* in a Russian woman, 3 males and 2 females among those from Turkey, and 1 female child among the Greeks. Two of those among the Turkish men were *Tænia saginata* and in the case of the 4 others the species were not determined. The rate of prevalence of the *Dibothriocephalus latus* among the Russians was .95 per 100, the rate *of Tænia* among the Greeks being 2.3, and among the Turks 9.4 per 100.

Among the 76 immigrants under 15 years of age there were 58 infections, or 76.6 per 100. Among the 259 between 15 and 31 years there were 128 infections, or 49.4 per 100. Among the 70 between 31 and 50 years there were 30 infections, or 42.8 per 100. Among the 7 over 51 years of age there were 4 infections, or 57.1 per 100. This shows that among all the immigrants examined the heaviest infection occurred in early life and tends to diminish with age. The rise in the case of those over 51 years may be due to accident on account of the small number examined.

Among the 412 immigrants there were 220 infections, giving the rate of prevalence of intestinal parasites as 53.39 per 100. Among the 282 males there were 155 infections, or 54.96 per 100, and among the 130 females there were 65 infections, or 50 per 100, showing that intestinal worms are slightly more frequent among the males than among the females.

130. **Tinea Versicolor in Three Sisters.**—The three sisters whose cases are reported by Knowles and Corson were all born in Russia although Philadelphia has been their place of residence for some years. They are healthy, but being extremely poor their cleanliness was not such as might have been desired. They occupied the same bed and occasionally used the *same* towel.

Archives of Ophthalmology, New York

September

135 Field of Vision in Tabetic Atrophy of Optic Disk. E. Fuchs, Vienna.
136 New Model of Large Eye Magnet, Method of Employment. O. Haab, Zurich.
137 Pathology of Superficial Punctate Keratitis, Neuropathic Keratitis and Hitherto Undescribed Lesion of Iris. F. H. Verhoeff, Boston.
138 Tonometry, with Description of New Tonometer. H. Schiötz,
139 Phorometry of Normal Eyes in Young Male Adults. P. C. Field, U. S. Army.
140 Dystrophia Epithelialis Cornea (Fuchs). A. Knapp.
141 Keratitis Punctata Subepithelialis. H. S. Gradle, Chicago.

Long Island Medical Journal, Rockville Center

August, V, No. 8, pp. 305-338

142 Some Things Doctors Ought to Think Of. J. D. Bryant, New York.
143 When Shall We Operate in Puerperal Septic Infection. J. O. Polak, Brooklyn.
144 Complaints Against Pharmacist and How to Remedy Them. R. E. Jones, Brooklyn.
145 The Samaritan Hospital. L. T. Jackman, Brooklyn.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial *foods are omitted unless of exceptional general interest.*

British Medical Journal, London

September 9, No. 2645, pp. 529-592

1 Educational Number. Sessions 1911-1912.

Lancet, London

September 9, CLXXXI, No. 4593, pp. 743-808

2 Surgical Gastric Disorders, Their Treatment and Results. E. S. Bishop.
3 Will National Health Insurance Ensure National Health? E. J. Schuster.
4 *Lymphatism Occurring in the East. A. Whitmore.
5 *Two Rare Manifestations of Bilharziosis. F. C. Madden.
6 Case of Eclampsia. G. De B. Turtle.
7 *Influence of Salicylates and Kindred Drugs on Thyroid *Activity.* H. E. Waller.
8 *Mediastinal Causes of Chronic Cough in Children. H. French.
9 *"Comforter" Otitis Media. W. H. Bowen.
10 *Treatment of Torticollis. P. B. Roth.
11 Case of Suppurating Inguinal *Ovarian Hernia*; *Operation*; Recovery. J. J. Waddelow.
12 Case of Recurrent Ileocecal Intussusception; Operation; Recovery. J. D. Fiddes.
13 Toxic Effect of Acetosalicylic Acid. A. Brown.
14 Case of Torsion of Testicle. W. Attlee.

September 16, CLXXXI, No. 4594, pp. 809-870

15 Review of Vital Statistics of Ireland Since 1864. W. J. Thompson.
16 *Treatment of Constipation. J. Sawyer.
17 Case of Acute Poliomyelitis in Adult. C. M. H. Howell and B. T. Parsons-Smith.
18 **Treatment of Hay Fever* by Hypodermic Inoculations of Pollen Vaccine. J. Freeman.
19 Some Points in Injuries to Elbow-Joint. R. L. Joynt.
20 *Traumatic Rupture of Abdominal Viscera. A. R. Short.
21 Chronic Obstruction of Bowel in Hydrocephalic Imbecile; Results at Post-Mortem Examination. A. L. E. F. Coleman and H. D. Everington.
22 Operative Treatment of Retroversion and Prolapse of Uterus. A. E. Morison.
23 Clinical *Appearance in Two Cases of Cerebral Disease.* J. H. Aytoun.
24 Phthisis in Wales. H. R. Jones.

4. **Lymphatism in East.**—Whitmore found sixteen cases of lymphatism in 565 bodies examined. In five, and probably in six, of the cases quoted the deaths were due to causes other than any peculiar dyscrasia of which the persistence of the thymus gland and the general hyperplasia of lymph tissue are the outward and visible signs.

5. **Bilharziosis.**—The first case reported by *Madden* was *one* of bilharziosis of the spermatic cord simulating tuberculous epididymitis. In the second case hemospermia was the first symptom of bilharziosis.

7. **Influence of Salicylates on Thyroid Activity.**—Three cases are cited by Waller to prove his contention that salicylates have a powerful influence against thyroid activity. For instance a robust adult had an acute tonsillitis. He had stuck to his work for three or four days when Waller first saw him one morning. He had then taken to his bed with a pulse-rate of 120 and temperature 102 F. He had headache and aches and pains in the limbs severe enough to suggest rheumatism, but possibly only influenzal. He was given a mixture containing 15-grain doses of sodium salicylate and ½-grain doses of compound tincture of cinchona. But owing to variations in the size of the domestic tablespoon, he repeatedly took a larger dose, roughly, 20 grains of salicylate and 40 minims of bark, every four hours. He then had a (morning) pulse-rate of 48 and temperature of 96.4 F. He had sweated profusely the first night, and his bowels were obstinately constipated, resisting strong doses of aperient. The pulse and temperature remained at this low level all the next day, and the bowels were still obstinately constipated in spite of aperients, though the salicylate mixture had been left off. Thyroid, 2½ gr., twice a day, was then given for two days, and the temperature again rose, this time to nearly 101 F., and the pulse to 98. The throat progressed rather slowly in spite of energetic antiseptic treatment which had given excellent results in other cases. The patient returned to work twelve days after Waller first saw him, when in spite of full doses of strychnin he had a very soft dicrotic pulse of 76 and a blood-pressure of only 100 mm. mercury.

8. **Mediastinal Causes of Chronic Cough in Children.**—Chronic enlargement, sometimes no doubt associated with tuberculous caseation, of the lymph-nodes at the bifurcation of the trachea is believed by French to be a cause in these cases of chronic cough. The bronchial node immediately below the right bronchus is affected far more frequently than is the node on the left side, and the right phrenic nerve is frequently seen to be displaced by the enlarged lymph-node in such a way as probably to be much irritated by it and thus lead to attacks of purposeless coughing—that is to say, coughing which does not succeed in bringing up any sputum. In a certain number of cases it is possible to demonstrate the enlargement of this right bronchial node by means of the Roentgen rays. French suggests that the attacks of coughing which are so troublesome in some heart cases are to be explained by irritation of the phrenic nerves in a similar way, by their being displaced and stretched by the dilated and hypertrophied heart. The importance of realizing that enlarged bronchial lymph-nodes may be the cause of persistent coughing in children is that the enlargement is generally tuberculous, and therefore the correct treatment is to adopt the general hygiene best adapted to the relief of a tuberculous infection together with measures calculated to prevent the swallowing of more living tubercle bacilli, an end to be accomplished either by obtaining milk from cows that have been tested satisfactorily with tuberculin, or else by making sure that any tubercle bacilli in the milk have been killed by efficient sterilization, preferably by thorough boiling.

9. **"Comforter" Otitis Media.**—The way in which the "comforter" acts is by introducing oral sepsis. This, in Bowen's opinion, is the crux of the matter. The "comforter" is at fault only in so far as it introduces sepsis leading to what are probably catarrhal processes, giving very little, if any, signs or symptoms in the mouth, oropharynx and nasopharynx; but once they spread by the tube to the middle ear, the lack of drainage quickly becomes felt and suppuration often results. That catarrh alone may result, with painful distention of the middle ear, is probable from the occurrence of pain in the ears in some babies who never get discharge coming from the meatus. Even if it gets no further than a painful catarrhal process, however, it is capable of doing considerable damage in a small enclosed space like the middle ear.

10. **Treatment of Torticollis.**—Roth calls attention to the fact that after torticollis has been treated by tenotomy no retentive apparatus is necessary. After division of the muscle and fascia by the open operation, the head is firmly manipulated into an overcorrected position. The child is then put back to bed with the head between sandbags, and on the second or third day is allowed up and gentle passive movements are begun. On the fifth or sixth day active movements take their place, and after removal of the stitches the mother is shown how to superintend the carrying out of these movements at home for five minutes twice a day.

16. **Treatment of Constipation.**—The importance of hygienic measures, exercise and diet are pointed out by Sawyer. For a case of habitual constipation which does not cure without medicines, his favorite remedy is Socotrine aloes, suitably combined and exhibited as a pill, at bedtime. Myrrh and aloes and cassia can, he says, still make coprostatics glad; myrrh, with its old repute of giving an impetus to the digestive organs, and an increase of muscular power to the digestive canal, Socotrine aloes and cassia pulp, of each equal proportions, made into a pill of the weight of 5 gr. with syrup or castor oil. One pill or more may be given for a dose, as found to be needed, and their administration should be gradually reduced and omitted altogether so soon as may be. He emphasizes that no case of habitual constipation can be treated by rule of thumb.

18. **Treatment of Hay-Fever.**—Considering all the cases generally, there seems little doubt in Freeman's mind that there has been a distinct amelioration of symptoms in all his cases treated by pollen vaccine. This improvement took several forms: a greater freedom from attack, the attack not so bad as in former years, and the attack sooner over; the constitutional disturbance not so great; less asthma. The people who had already developed hay-fever when they commenced were, perhaps, the most generous in their comments, possibly because they had recently had a reminder of what hay-fever was like.

20. **Traumatic Rupture of Abdominal Viscera.**—Excluding cases admitted moribund, out of ten patients with ruptured liver, intestine, pancreas, or spleen, the pulse-rate when they were first seen was in one case 100, in another 99, and in seven about normal. In one it was only 30. In every case of rupture of any abdominal viscus in which the pulse-rate on admission exceeded 100, the patient died within twenty-four hours. Short says it is often mentioned that the volume and tension were good. The text-books usually state that the pulse-rate will rise if there is a serious injury. This was true in at least six cases, but in one of ruptured liver it fell from 84 to 62. The temperature seems to be of more value. It is only recorded nine times; in five of these it was markedly subnormal. Pallor or anxious appearance is often remarked on. Abdominal pain and rigidity were almost constant, except in the tragic and deceptive cases. Vomiting was not usual. Only one patient vomited blood. The diagnosis was usually made by observing that after some hours the appearance, the abdominal condition, and the pulse did not improve; in many there was a decided change for the worse.

Dublin Journal of Medical Science

September, No. 477, pp. 161-240

25 Sphere of Women in Relation to Public Health. Countess of Aberdeen.
26 The Pupil and Mechanism of Its Reflexes in Health and Disease. J. H. Woodroffe.
27 Artificial Eruptions. A. F. B. Shaw.

Practitioner, London

September, LXXXVII, No. 3, pp. 273-408

28 Lymphatic Infection from Appendicitis Without Peritonitis. A. E. Barker.
29 Gunshot Wounds and Their Treatment. J. Berry.
30 *Residual Urine in Old Men. A. G. Miller.
31 Hernia in Children, with Special Reference to Variations of Sac and Contents. D. Drew.
32 *Prognosis of Heart Disease. J. F. H. Dally.
33 Cleft-Palate Controversy; Its Present Position. F. W. Goyder.
34 Surgery of Commoner Acute Abdominal Lesions. R. Coombe.
35 Hyperemia in Treatment of Skin Diseases. W. K. Sibley.
36 Fatalities During Anesthesia. J. D. Mortimer.
37 Cretinism. B. C. A. Leeper.
38 Pathologically High Blood-Pressure, Its Treatment by Non-Medicinal Methods. A. A. Hudson.
39 Choice of Patient for Artificial Pneumothorax in Treatment of Chronic Pulmonary Tuberculosis. S. V. Pearson.
40 Differential Diagnosis of Tabes. H. Matthews.
41 An Old Medical Journal. A. D. Edwards.

30. **Residual Urine in Old Men.**—The object of the treatment suggested by Miller in these cases is twofold, to improve the muscular tone of the bladder by exercise and to train the bladder to empty itself. to enable it to acquire a good habit. He advises those having residual urine after passing water in the usual way to wait a minute or two and then try again. Practice this as frequently as possible, till only a very small quantity can be squeezed out (say, half an ounce). When this point has been reached, twice or thrice daily may suffice. The most important times are before going to bed and on rising in the morning. On these occasions it may be advisable. at first, to make three, or even more, efforts so as to make sure of thoroughly emptying the bladder. It is not advisable to wait too long before making the second effort. About one minute is generally quite sufficient, certainly not more than two; because after the act of expelling the urine the bladder may quiet down if the patient waits too long, and a considerable effort may be required to start the flow again.

32. **Prognosis of Heart Disease.**—Dally says that all things being equal. the descending order of gravity of the chief valvular lesions may broadly be stated as follows: (1) Aortic and mitral disease combined, (2) aortic regurgitation, (3) mitral stenosis, (4) aortic stenosis, and (5) mitral regurgitation.

Australasian Medical Gazette, Sydney

August 21, XXX, No. 359, pp. 423-484

42 Some Results of Vaccine Therapy. F. Tidswell.
43 Observations on Surgery of Paralysis. W. J. S. McKay.
44 Deadborn and Stillborn Babies (Asphyxia Neonatorum). J. H. Cameron.
45 Feeble-Minded Children. A. Davidson.
46 Four Cases of Myxedema. A. G. Salter.
47 Case of Stokes-Adams Disease of Heart. C. Purser and N. J. Davis.
48 Local Anesthesia. A. J. J. Triado.
49 Pathogeny of Ulcerating Granuloma. C. L. Strangman.
50 Internal Derangements of Knee Joint. J. P. Hastings.
51 Meddlesome Gynecology. O. Smithson.
52 Acute Epiphysitis in New-Born and Early Dentition. J. A. Wattt and W. S. Sweet.
53 Cause of Sudden Death After Diphtheria. S. Sheldon.
54 Case of Fibroma of Larynx. F. Tratman.

Journal of Obstetrics and Gynecology of British Empire, London

August, XX, No. 2, pp. 47-84

55 *Extraperitoneal Cesarean Section. E. H. Tweedy.
56 *Expulsion of Placenta Before Birth of Child. W. D. MacFarlane.
57 Case of Sarcoma of Uterus. E. Holland.
58 Cesarean Section for Severe Cardiac Disease, Done Under Spinal Anesthesia. J. Wyatt.
59 Cure of Vesicovaginal Fistula by Abdominal Section. E. H. Tweedy.
60 *Ovarian Cyst with Torsion of Pedicle, Giving Rise to Unusual Symptoms. W. D. MacFarlane.

55. **Extraperitoneal Cesarean Section.**—So far as Tweedy's experience goes he would not consider extraperitoneal Cesarean section an alternative to classical Cesarean section, but rather its complement.

56. **Expulsion of Placenta Before Birth of Child.**—The points of interest in the three cases cited by MacFarlane are: (1) The premature expulsion of the placenta in all pointing to placenta prævia; in one case the last two pregnancies were complicated by placenta prævia. (2) The shape and unusual length of the placenta in two of the cases. It is not unusual to have the placenta crescentic in shape when situated near the os internum. (3) The uniform presence of areas of placental infarction on the maternal surface. (4) The presence of hydramnios in two of the cases. (5) A history of endometrial involvement in all the cases. (6) The absence of hemorrhage either before or after the expulsion of the placenta. The puerperium in these three cases was normal.

60. **Ovarian Cyst with Torsion of Pedicle.**—MacFarlane's patient gave a history of kidney pain of seven years' duration, and of three recent attacks of pain of an unusually severe nature accompanied by sickness and vomiting. The pain was most acute in the left lumbar region, followed the course of the left ureter, and there was dysuria and very frequent micturition; at no time had there been evidence of hematuria. The pain had at no time any relation to menstruation and was not accompanied by any bloody discharge from the vagina. All the thoracic organs were normal. On palpation, a tense, cystic swelling was found occupying the middle line from the symphysis pubis to within three fingers' breadth of the umbilicus; it did not seem to have much mobility and was painless on pressure or attempted movement. The percussion note was dull over the swelling and resonant in flanks. Omentum and intestines were densely adherent all over the surface of the tumor. The rectum and right uterine appendages were also firmly attached to the cyst wall. After removing the adherent omentum and bowel from the tumor wall, a long thin pedicle with three turns from left to right was found attached to the tumor, which proved to be a unilocular cyst of the left ovary.

British Journal of Children's Diseases, London

September, VIII, No. 93, pp. 385-432

61 Orthostatic Albuminuria. F. P. Weber.
62 Typhoid in Childhood: Analysis of 100 Consecutive Cases. E. B. Smith.
63 Surgical Aspects of Acute Abdominal Disease in Childhood. H. S. Clogg.

Heart, London

August, II, No. 4, pp. 273-386

64 *Digitalis. J. Mackenzie.

64. **Digitalis.**—A careful and thorough clinical study of digitalis was made by Mackenzie in forty-three cases, which are reported in detail, and for these the original article (covering 113 pages) must be consulted. Mackenzie summarizes his findings as follows: The careful analysis of the symptoms of patients to whom digitalis has been administered brings out the fact that individuals react differently to the drug. So far as the heart is concerned, the difference is partly dependent on the nature of the lesion with which the heart is affected. Patients with auricular fibrillation are more readily and more markedly affected than patients with the normal rhythm. Digitalis, in a proportion of patients with normal rhythm, affects the auriculoventricular bundle more particularly, producing partial heart-block. It is suggested that the susceptibility of patients with auricular fibrillation may result from the tendency of the digitalis to affect the bundle, the change in the auricular condition rendering the bundle more susceptible to the influence of the digitalis. It is possible that in slowing the heart's rate, the digitalis acts by stimulating the vagus nerve. Digitalis tends to induce auricular fibrillation. In two cases of tachycardia, arising from an abnormal source, digitalis caused the heart to revert to a normal rhythm, first inducing fibrillation of the auricle. The diuretic effects of digitalis may be produced with no perceptible change in the heart.

Clinical Journal, London

September 13, XXXVIII, No. 985, pp. 353-368

65 Hydatidiform Mole. G. Blacker.
66 Tragedies of Ocular Disease. P. Dunn.
67 Rickets: Its Cause and Treatment. E. Pritchard.

Annales de Gynécologie et d'Obstétrique, Paris

August, XXXVIII, No. 8, pp. 449-496

68 *Suppuration and Gangrene of Uterine Fibromas. P. Lecène.
69 Lymphoid Growths in Chronic Salpingitis. Meriel and Bassal.
70 Diathermia in Gynecology. (Nouvelle méthode de thermothérapie dans les maladies gynécologiques.) S. Flatau.
71 Dry Bolus Alba in Treatment of Catarrhal Conditions in Female Genitalia, Etc. (Traitement des écoulements chez la femme.) M. Nassauer.

68. **Gangrene of Uterine Fibromas.**—Lecène reports seven cases of fibromas with various complications, such as aseptic decay, suppuration or putrefaction of the fibromyomas. He has had only one case of infection and suppuration of a fibroma in the uterus, among the ninety-five *uterine fibroma* cases in which he has operated in the last six years. The infection was from the colon bacillus and probably of intestinal origin; the general health was much impaired, the pulse rapid, with fluctuating high fever. In one case of gangrenous fibroma he sterilized the vagina with iodin and sutured the cervix of the uterus to close it water-tight so that he was able to remove the uterus without escape of infectious matter. The gangrenous fibromas have a special dregs-of-wine color which extends through the internal genitals as he shows in a colored plate.

Presse Médicale, Paris

September 6, XIX, No. 71, pp. 713-720

72 *Acquired Tolerance to Certain Poisons, Especially to the Toxic Action of Organ Extracts. (L'accoutumance rapide de l'économie à l'action de quelques poisons.) H. Roger.
73 Technic for Testing the Hearing in Young Children. (Technique de l'examen auditif.) P. M. Constantin.

72. **Acquired Tolerance to Toxic Substances.**—Roger states that the strength of the solution and the rapidity of the injection are important factors in the effect of experimental injection of poisons, as he shows by reports of several series of researches. They suggest the necessity for studying from the bottom anew the toxicologic action of extracts of organs. Champy and Gley have recently reported that injection of a dose of extract of corpus luteum, not immediately fatal, immunizes the animals in less than fifteen minutes, so that they will bear without harm injection then of ten times the dose fatal for the controls. They have coined for this rapid immunization the term "tachyphylaxis," and Roger reports similar experiences with rabbits injected with extract of lung tissue. The serum of a rabbit thus immunized does not enhance the resisting powers of a previously untreated animal. He calls attention to this negative result as showing the marked difference between this rapidly acquired tolerance and the slow immunization which can be acquired against microbian poisoning. He thinks the more proper term would be "tachysynethia," to indicate rapidly becoming accustomed, in contrast to the phenomena connected with antimicrobian vaccination. This factor of the organism becoming accustomed to an organ extract has been overlooked in the research hitherto on the internal secretions of the various organs.

Revue de Gynécologie, Paris

June, XVI, No. 6, pp. 553-659

74 Abdominal Operations for Malformation of the Uterus. P. Goullioud.
75 Long Survival After Gastro-Enterostomy for Cancerous Stenosis of the Pylorus. S. Mélamet.

Revue de Médecine, Paris

July, XXXI, No. 7, pp. 513-592

76 *Tuberculous Pericarditis. O. Jacob and Chavigny.
77 Clinical Forms of Pulmonary Tuberculosis According to Bard's Classification. R. Burnand.
78 *Weakness and Mania After Apoplexy. (L'asthénomanie post-apoplectique. Benon.

August, No. 8, pp. 593-671

79 Subacute and Chronic Pneumococcus Infection of Lungs or Bronchi. O. Crouzon and C. Richet.
80 Raynaud's Disease and Cardiovascular Lesions. J. Bret and J. Chalier.
81 Polyglandular Syndrome. (Syndrome d'insuffisance pluriglandulaire; lésions predominantes de l'ovaire.) Abrami, L. Kindberg and Cotoni.
82 Pathologic Changes in the Reflexes After Trauma of the Spinal Cord. Mattirolo.

76. **Tuberculous Pericarditis.**—Jacob and Chavigny report a case of tuberculous pericarditis with much effusion in which the diagnosis was long dubious; pericardotomy alone cleared up the case and has apparently cured the patient. This affection has no pathognomonic signs or symptoms; even puncture may prove misleading and do actual harm while from the therapeutic point of view it is inadequate and has to be inevitably followed by pericardotomy sooner or later. They advocate therefore pericardotomy as the routine procedure at the start without wasting time on other measures. Their patient was a waiter, 23 years old, with a tendency to asphyxia and cyanosis but change of position did not modify the position of the heart. The pulse was of the paradox type; the area of heart dulness was not enlarged but it was absolute and roentography showed the heart shadow enlarged, with round outlines and no concavity. There was no edema, dysphagia or albuminuria. The sudden intense dyspnea was evidently of cardiac origin but it was impossible to say whether it was due to acute dilatation, the terminal phase of an unsuspected endocarditis or to a pericardial effusion. The patient's strength was kept up with inhalation of oxygen and injection of ether and camphorated oil, and the next day pericardotomy was done under cocain local anesthesia; the benefit was prompt and marvelous. The incision in the skin was sutured without drainage but the incision in the pericardium was left untouched so that any further effusion might drain away of itself and possibly induce a kind of autoserotherapy.

78. **Postapoplectic Mania.**—Benon applies this term to a secondary mania developing as the patient is recovering from the phase of weakness of muscles and mind which follows a cerebrospinal hemorrhage. He reports two typical cases. The first patient was a woman of 82 and the muscular weakness lasted about two weeks after the apoplexy; then followed a week of increasing strength and liveliness, gradually amounting to actual mania with insomnia. This phase lasted for twenty or twenty-five days and gradually subsided, normal conditions then being restored except for persisting hemiparesis. The second patient was a man of 42, and the asthenia lasted three or four days and the mania ten or twelve, but there is still a little mental impairment. In three other cases the asthenia and mania recurred occasionally and the mental condition compelled institutional care in some. These patients were 42 and 43 years old and their affection merges into periodical depressive mania. Another patient had an attack of melancholia at 27 and a cerebral hemorrhage at 32, followed by recurring attacks of asthenia and suicidal depression but no actual mental impairment. In conclusion Benon reviews the literature on the subject of apoplexy in the history of the insane, and warns that institutional care is seldom necessary for persons developing this transient mania after a cerebral hemorrhage, as it generally subsides spontaneously in a few weeks or months. At the same time it may blend into periodic depressive mania. He also remarks that the alternations of gay excitement and depression in the insane are often merely phenomena indicating phases of asthenia or hypersthenia. He adds further that these phenomena should not be taken for signs of mental impairment.

Semaine Médicale, Paris

September 6, XXXI, No. 36, pp. 421-432

83 *Treatment of Placenta Prævia. R. De Bovis.

83. **Treatment of Placenta Prævia.**—De Bovis discusses whether operative treatment of placenta prævia is justified, reviewing international experiences in this line. The main point is to arrest the hemorrhage at any price, even at the price of an operation; then to deliver the woman without haste and without force. This latter principle does not seem to be always understood; because it is important to hasten to arrest the hemorrhage, it does not follow by any means, he insists, that delivery must be hastened. If an inflatable bag has been introduced or version done, the rule should be *Tendre et attendre*, that is gently press the bag or the breech of the fetus against the lower segment of the uterus, but wait patiently for spontaneous expulsion. This advice, he declares, formulated by all experienced obstetricians, should be printed in the heaviest type in the works on the practice of obstetrics; unfortunately there is generally not even a reference to such advice. It is rendered necessary by the extreme friability of the lower segment in these conditions. This also is what contra-indicates instrumental dilatation, which should be formally repudiated with placenta prævia. Even dilatation by the hand has entailed fatal laceration of the cervix as van Tussenbroek emphasized anew in 1908. De Bovis' own practice is to insist on absolute quiet, with rupture of the fetal membranes at need, and irrigation of the uterus with hot water, using 7 or 8 liters of water at least, at a temperature of 45 to 48 C. (113 to 118 F.), and recommencing the irrigation if necessary until the hemorrhage has been arrested. This method of treatment is tedious, but it does not infect the parturient like a tampon nor expose to mishaps, such as are liable with version and introduction of the inflatable bag, and as it often permits the bag of waters to be left undisturbed, it affords better chances for the life of the child. When merely tepid water is used or insufficient amounts of the hot water, the tendency to hemorrhage is promoted instead of checked. His experience with seventy cases in ten years without a fatality is a fine record, and although he has had two deaths recently, the patients brought in practically moribund, yet this is a mortality of only 2.7 per cent. in his total seventy-two cases of placenta prævia in the last eleven years.

Archiv für Kinderheilkunde, Stuttgart

LVI, Nos. 1-3, pp. 1-240. Last indexed July 22, p. 346

84 Case of Hematomyelia with Total Interruption of Conduction of Impulses in New-Born Infant Who Lived for Four Months. R. Lawatschek.
85 Research on Metabolism of Bottle-Fed Infants Given Albulactin K. Bornstein.

86 Case of Oppenheim's Congenital Myatonia with Necropsy. W. Archangelsky and A. Abrikosoff.
87 Temperature of Infants' Foods. (Physiologisches zur Frage der Warmemessung der trinkfertigen Säuglingsnahrung.) H. Roeder.
88 *Epidemic Poliomyelitis. (Casuistische Beiträge zur Klinik der Heine-Medinschen Krankheit.) G. Alsberg. (Ueber die spinale Kinderlähmung in der Provinz Schleswig-Holstein, 1909-1910.) M. Meyer.
89 Tuberculosis and Tuberculin Therapy in Infants and Young Children. (Nachtrag.) P. Röhmer.

88. Epidemic Poliomyelitis in Northern Germany.—During 1909 and 1910 there were three extensive foci in Germany at the same time as epidemics occurred in Austria and this country. Besides these large foci, a small epidemic of 132 cases in all occurred in the Schleswig-Holstein province in northern Germany, and Meyer here presents the results of careful research into conditions in this latter focus. The intermediation of healthy germ-carriers in propagating the disease was particularly evident in this epidemic, conditions in this respect being almost identical with those of epidemics of cerebrospinal meningitis. The symptomatology and prophylaxis are discussed in detail.

Archiv für klinische Chirurgie, Berlin

XCV, No. 4, pp. 743-1026. Last indexed Aug. 26 and Sept. 9, pp. 775 and 933

90 Appendicitis at Helsingfors, 1901-1908; 1,000 Cases. A. Krogius.
91 *Influence on Tuberculous Process in Lungs by Impeding the Local Circulation. (Operative Lungenstauung und deren Einfluss auf die Tuberculose.) M. Tiegel.
92 Transplantation of Unpedunculated Flaps. (Ueber freie Transplantationen.) E. Lexer.
93 Operative Treatment of Fractures. G. F. v. Saar.
94 Congenital Sacral Tumors. A. Bergmann.
95 Surgery of the Liver. (Zur Chirurgie der Leber.) W. Wendel.
96 Removal of Accessory Stomach. (Beschreibung eines operativ entfernten congenitalen Nebenmagens.) W. Wendel.
97 [illegible] he Knee. (Eine echte Zottengeschwulst [illegible] Reichel and C. Nauverck.
98 [illegible] ntestine. (Zur Technik der Dickdarm- [illegible]
99 *Experimental Operations on the Lungs Under Intratracheal Insufflation. A. Schlesinger.
100 Operative Treatment of Obstipation from Congenital Malformations in the Sigmoid Flexure and Rectum. (Zur chirurgischen Behandlung der durch Megasigmoideum und Houston'sche Klappen verursachten Obstipation.) R. Goebell.
101 Intraperitoneal Rupture of the Bladder. (Harnblasenrupturen.) P. Herzen.
102 Healed Stab Wounds of the Heart. (Geheilte Stichverletzungen des Herzens.) F. Hasse.
103 *Operative Drainage of the Ventricles in Hydrocephalus. E. Payr.
104 *Research on the Thyroid in Exophthalmic Goiter and Hyperthyroidism. A. Kocher.
105 Stab Wound of the Pancreas Cured by Operation. (Isolierte Stichverletzungen des Pankreas durch Operation geheilt.) H. Fowelin.
106 Recovery After Stab Wound of Heart, Lungs and Liver. (Fall von Stich-Schnitt-Verletzung des Herzens, der beiden Lungen und der Leber.) T. M. Pikin.

91. Operative Interference with Circulation in the Lung and Its Curative Influence on Tuberculous Processes.—Practical experience has convinced Tiegel that partially obstructing the circulation in the lung does not materially alter its histologic structure and functioning but it has an unmistakable inhibiting influence on the development of tuberculosis. The method promises to apply also to tuberculous processes in the kidneys, and he is now experimenting in this line. His research was all done on rabbits; dogs are not susceptible enough to the inoculation of tubercle bacilli to answer for the experiments. He induced the stasis in the lung by ligating the pulmonary vein with a fine wire introduced through the fourth or fifth interspace under some differential-pressure procedure. He gives illustrations of the treated and untreated lung, instructively showing the tendency to heal of tuberculous processes as the lung grew tougher and harder under the influence of the stasis.

99. Intratracheal Insufflation for Operations on the Lungs.—Schlesinger has been operating on the lungs of dogs with the Meltzer and Auer intratracheal insufflation method, and declares that the simplicity of the method will render it superior to all others if the technic can be perfected a little farther. The main drawback is that it requires deep general anesthesia. According to his experiences severe injury may be inflicted if the anesthesia is not deep enough to relax the animal entirely. He does not consider it fully established yet that the insufflation never harms the respiratory organs. The influx of air into a yet unopened pleura is by no means an altogether harmless occurrence. The change of catheters during the operation might also prove dangerous in the clinic. The chief advantages of the method he enumerates as its simplicity, inexpensiveness, convenience and absolute prevention of aspiration of vomit, etc., while the surgeon can work on a stationary lung.

103. Drainage of the Lateral Ventricles in Hydrocephalus.—Payr states that in the last three years he has operated in fifteen cases of hydrocephalus by various technics aiming to open a connection between the ventricle and the venous circulation and thus drain away the excess of fluid. The youngest patient was 6 months, the oldest 20 years old. The hydrocephalus was completely cured in 50 per cent. of the eight patients who survived the first few months. The fatalities were due to too rapid evacuation of the fluid in two cases, to primary infection in one and secondary infection months later from a fistula in four others. The cases were naturally all of the severest types. In four he drained into the longitudinal sinus, in four into the jugular or facial vein; in seven into the subarachnoid or subdural space or into the loose connective tissue under the temporal muscle. He used for the drain a segment of calf artery for the portion within the brain, piecing this out below with a segment of the patient's own saphena run through under the skin. Necropsy in the fatal cases showed that the drain was constantly permeable. He regards the results on the whole as very encouraging, the failures being probably avoidable by improved technic.

104. The Thyroid with Exophthalmic Goiter.—Kocher reports the results of recent research on the physiology and chemistry of the thyroid gland as studied on the thyroids removed from thirty-five patients with exophthalmic goiter. His experience is now so extensive that from the clinical manifestations alone he is generally able to predict the exact histologic chemical conditions that will be found in the thyroid. They are usually of four different types and each corresponds to a special clinical type of the disease, as he shows by examples. Particularly interesting are the results of transplantation of scraps of a Basedow thyroid into persons suffering from deficient thyroid functioning. He has been doing work in this line—implanting the scraps in the bones—since 1898 and the benefit has been direct and permanent in certain cases. Desiccated Basedow thyroids have also been used in treatment of certain other patients and the result on the metabolism carefully studied. The effect seemed to be the same as when normal thyroids are administered—this testifies against the assumption of perverted thyroid functioning in exophthalmic goiter. The Basedow thyroids seemed to influence the metabolism more effectively the larger the iodin content of the gland. This was also observed in patients with myxedema given ordinary thyroid treatment. The proportion of iodin in the Basedow thyroid varies in wide limits, being always far above or far below normal range, both absolutely and relatively.

Berliner klinische Wochenschrift

September 11, XLVIII, No. 37, pp. 1669-1704

107 The Pineal Gland. (Die Zirbeldrüse.) A. Münzer.
108 *Neoplasms in Meckel's Diverticulum. L. Tschiknawerow.
109 *Rhizotomy for Tabetic Gastric Crises. (Förster'sche Operation wegen gastrischer Krisen bei Tabes.) W. Zinn.
110 Hemolysins of Serum of Cold-Blooded Animals. (Die Hämolysine der Kaltbluterseren.) H. Liefmann.
111 Technic for Infusion of Salvarsan. H. Mayer.
112 Telephone Accidents and Their Prevention. (Unfälle am Telephon und ihre Verhütung.) R. Foerster.
113 Infant Mortality in Prussia. (Die Säuglingssterblichkeit in den Provinzen, Regierungsbezirken und Kreisen des preussischen Staates 1910 und 1904.) R. Bahla.
114 Radium Emanations in Therapeutics. (Ueber Aufnahme und Ausscheidung der Radiumemanationen, Inhalation oder Trinkkur?) Eichholz.
115 *Erysipelas with Afebrile Course. E. v. Czyhlarz.

108. Tumors in Meckel's Diverticulum.—In the first of the three cases reported the diverticulum was the seat of a large sarcoma. Tschiknawerow has been able to find only one case like this on record; the patients were 62 and 72 years old. In the other cases the diverticulum was the seat of what seemed to be an accessory pancreas or of abnormal proliferation of the crypts of Lieberkuhn.

109. **Rhizotomy for Gastric Crises in Tabes.**—Zinn reports a case in a man of 43 who was relieved at one stroke of intolerable gastric crises by the operation. After five months they recurred in a brief and mild form, once or twice a week, but disappeared again during the seventh month. In the majority of the twenty-eight cases published to date there has been recurrence later of the crises in a mild form, but the operation has been of life-saving importance in a number of cases.

115. **Afebrile Erysipelas.**—Czylharz states that he has had twenty-nine afebrile cases among his 324 cases of erysipelas during the last year at Vienna, all in women.

Deutsche medizinische Wochenschrift, Berlin

September 7, XXXVI, No. 37, pp. 1633-1680

116 The Respiratory Metabolism in Infants. (Respiratorischer Stoffwechsel des Säuglings.) A. Schlossmann.
117 *The Cutaneous Tuberculin Reaction in Diagnosis and Prognosis. M. Wilms.
118 *Tuberculin Treatment of Surgical Tuberculosis. M. Wilms.
119 *Tl [illegible] n in Children. (Zur [illegible] S. Engel.
120 M [illegible] Aussichten der Säuglingsfürsorge.) M. Mohlfeld.
121 Infant Welfare Expositions. (Ueber Ausstellungen für Säuglingsfürsorge.) H. Brüning.
122 *Early Diagnosis of Small-Pox, and Prophylaxis.* (Zur Wirksamkeit des Impfschutzes und zur Diagnose der Variolois.) C. O. Risel.
123 Toxic Aqueous Extracts of Organs and Detoxicating Action of Fresh Serum. H. Dold.
124 Vaccine Therapy of Syphilitic Rabbits. C. Grouven.
125 Salvarsan in Late Syphilis and Lumbar Puncture Control. (Erfahrungen ü[illegible]er und metaluetischer [illegible] unter Kontrolle durch [illegible]. Commenced in No. 35.
126 The Wassermann Reaction in Nervous Disease. (Zur Kenntnis des Ausfalls der Wassermannschen Reaktion im Lumbalpunktat und Blutserum bei Erkrankungen des Nervensystems unter Berücksichtigung verschiedener Antigene.) H. Dembowski.
127 Unfavorable Outcome of Paraffin Treatment of Umbilical Hernia. (Zur Paraffinbehandlung von Nabelbrüchen.) M. Martens.
128 Case of Hematometra in Accessary Cornu of Uterus Bicornis. F. Sieber.

117 and 118. **Tuberculin Treatment in Surgical Tuberculosis.**—Wilms concludes from his clinical experience that the fungous forms of tuberculosis generally give a negative cutaneous tuberculin reaction. The cutaneous test therefore is no clue to diagnosis or prognosis unless the reaction is positive. On the other hand, with a fistulous or suppurating tuberculous process a negative reaction indicates a condition of cachexia. He has found tuberculin treatment especially advantageous in the forms of fungous tuberculosis giving a negative Pirquet reaction; the tuberculin treatment aids powerfully the natural tendency to heal. The slight reaction in such cases enables the dose to be rapidly increased. Combined treatment with tuberculin, roentotherapy, etc., is going to supersede surgical measures in treatment of tuberculosis, he thinks, more and more each year. The task is not only to remove the focus by an operation but to make the organism more resistant to reinfection. He is convinced that the cure of a tuberculous glandular process by conservative measures leaves the patient in better condition than when the lymphoma has been early removed. In the first case the body has been rendered strong by its struggle with the glandular tuberculosis and is thus more resistant against the unavoidable opportunities for new infection; while in the other case the body is equally sensitive as before to new infection and recurrence is almost inevitable unless tuberculin treatment comes to its assistance. Wilms remarks in conclusion that the scrofulous glandular swellings in youth may represent the period during which the organism is immunizing itself against the ubiquitous tuberculosis infection. Consequently he pleads for greater reserve in removing these protecting and battling organs. If an operation is indispensable on account of suppuration then the body should be reenforced by a course of tuberculin.

119. **Intracutaneous Tuberculin Test.**—Engel declares that this technic has numerous advantages over the other tuberculin tests; the technic is simple and the dose can be graduated while the reaction is easy to recognize and the inconvenience for the patient is minimal. He used the technic without knowledge of Mantoux' intradermal reaction. The latter uses 1 drop of 1 to 5,000 solution of tuberculin, but Engel uses 1 drop of a 1 to 1,000 solution of old tuberculin and, if no reaction follows, increases the strength to 1 per cent., 10 per cent. and 100 per cent. in some cases, some of the patients finally reacting to the latter dose. The subcutaneous tuberculin test fails with febrile patients, and the cutaneous with patients whose susceptibility to tuberculin is reduced, but the intracutaneous method succeeds when these others fail. When there is a morbid dread of tuberculosis, the intracutaneous reaction enables the last trace of uneasiness to be dispelled with mathematical certainty if there is no reaction to the stronger concentration. He cites a number of instructive cases to show the superiority of this technic in various puzzling conditions, as in the case of a cachectic child with meningitis in which this test positively excluded tuberculosis.

Jahrbuch für Kinderheilkunde, Berlin

July, LXXIV, No. 1, pp. 1-122

129 *Prolapse of the Urethra in Little Girls. (Ueber Harnröhrenvorfall bei kleinen Mädchen.) H. Brüning. Concluded in No. 2.
130 Metabolism of a Bottle-Fed Infant. (Der Gesamtstoffwechsel eines künstlichgenährten Säuglings mit Einschluss des respiratorischen Stoffwechsels.) A. Niemann. Continued.
131 Head's Zones in Beginning Tuberculosis in Children. C. T. Noeggerath and V. Salle.

August, No. 2, pp. 123-236

132 Causes of the Breaking Down of Hypertrophied Hearts. (Kasuistischer Beitrag zur Lehre von den Ursachen des Erlahmens hypertrophischer Herzens.) K. Frenkel.
133 *Prophylactic Immunization Through Nostrils Against Diphtheria. (Ueber die aktive antidiphtheritische Immunisation der Kinder nach dem Prinzip von S. K. Dzerjgowsky.) N. Blumenau.
134 *Possibility of Cure of Tuberculous Meningitis. W. G. Archangelsky.
135 Alliteration as Physiologic Form of Child's First Efforts to Talk. (Anteponierende Alliteration als physiologische Form des kindlichen Stammelns.) W. Stoeltzner.
136 Scarlet Fever and Chronic Nephritis. Stroink.

129. **Prolapse of Urethra in Little Girls.**—Brüning reports a case of the sudden prolapse of the entire mucous lining of the urethra, without apparent cause, in a healthy girl of 8. Study of the literature on this subject shows that this occurrence is observed in girls only in early infancy and beween the ages of 8 and 12. Hemorrhage accompanied the prolapse in 41 per cent. of the seventy-six cases he has found and tabulated. In a large proportion of the cases the prolapse was not recognized and dire results followed treatment based on a mistaken diagnosis. The child should be kept in bed and astringent and cauterizing measures should be applied after reduction. If these fail or if the prolapse is total, he advises resection of the sagging portion and suture. The operative loss of blood has always been slight.

133. **Active Immunization in Prophylaxis of Diphtheria.**—Blumenau states that 348 children with measles or scarlet fever were given prophylactic injections of 500 or 600 antitoxin units as soon as they entered the contagious disease ward, and the injection was repeated each two weeks afterward. Nineteen of the children, that is, 5.5 per cent. developed diphtheria later, and signs of serum sickness were evident in 18.4 per cent. As these results were not considered satisfactory, Dzerjgowsky devised a method of inducing active immunization which seems to be promising. A wad of cotton impregnated with diphtheria toxin was introduced into each nostril alternately for an hour each day for ten days. In experiments on adults and on seventeen children it was found that there was marked production of antitoxin by this method. Experimental research indicates that the immunity thus acquired may last for months and years. The method may perhaps be advantageously combined with passive immunization by injection of antitoxin when rapid action is desired. The diphtheria toxin was diluted with twice the amount of salt solution in a later group of eleven children to avoid by-effects, and the tampon was left in the nose only half an hour every third day. There was no injury of the mucosa with this milder technic, while the antibody production was fully as marked as in the first group.

134. **Curability of Tuberculous Meningitis.**—Archangelsky reviews the five cases on record of recovery from tuberculous meningitis, and reports a case from his own experience. In

all the tubercle bacilli had been found in the cerebrospinal fluid or the biologic reactions had been positive. Repeated lumbar puncture had been one of the factors in the cure in his case, supplemented later by sodium iodid. These six cases are the only ones of which he knows in the last ten years.

Medizinische Klinik, Berlin

September 10, VII, No. 37, pp. 1409-1444

137 Diarrhea of Gastric Origin. A. Albu.
138 *Physical Treatment of Rachitis. F. Kirchberg.
139 *Momburg's Belt Constriction in Obstetrics. (Erfahrungen mit der Momburgschen Blutleere in der Geburtshilfe.) H. Fuchs.
140 Catheterization of the Ureters. (Ueber den diagnostischen und therapeutischen Wert des Ureterenkatheterismus.) G. Thelen.
141 Salvarsan in Third Phase of Syphilis. J. Fabry and E. Kretzmer.
142 Iodin Fever. (Zwei Fälle von Jodfieber.) A. Solmsen.
143 Neurasthenia in the Young. G. Major.
144 Elimination of Iodin in Health. E. Herzfeld and M. Haupt.

138. **Physical Treatment of Rachitis.**—Kirchberg is chief of the Berlin massage institute, and he reports remarkable benefit from physical therapy in the treatment of rachitis, especially stimulation of peristalsis by massage of the abdomen which also has a favorable influence on the musculature of the abdomen and diaphragm. Stimulation of the skin by rubbing through a rough towel, air baths and massage of the skin to promote the circulation, all cooperate in notable improvement in the general health. He warns that actual scoliosis never retrogresses spontaneously, and urges the necessity for watching over infants to prevent its development. Lange has insisted that the foundation for curvature of the spine is frequently laid before the child is 1 year old by the way in which it is carried in the arms. In the florid stage of rachitic scoliosis passive movements and correction should be supplemented by breathing exercises; these are especially useful in preventing the fixation of the spine in scoliosis. One of Kirchberg's exercises has the child lie prone on a hard bench or bed and breathe deep with a long pause between inspiration and expiration, while the masseuse presses one shoulder and the pelvis of the child down firmly, so that the ribs have to be lifted upward and backward and thus induce vigorous movements in the joints of the spine. As a rule the exercises should be done with the trunk exposed, in front of a mirror, several times a day, up to half an hour at a time. He has the children breathe deeply as each of the gymnastic exercises is done.

139. **Momburg's Belt Constriction in Obstetrics.**—Fuchs reports two cases in which the remarkable advantages of this procedure to arrest obstetric hemorrhage were clearly evident. The constriction not only avoided all danger of excessive loss of blood but it also stimulated the uterus to healthy contractions. In his third case, however, the constriction had such an injurious action on the heart that it gradually failed and the patient died a few hours after the belt had been removed. The trouble in this case was a hydatidiform mole, so large that it required the constricting tube to be applied unusually high, above the level of the umbilicus. He draws the lesson from this case that this method is contra-indicated, especially raising the pelvis therewith, if the heart has been debilitated by considerable loss of blood. Also that the release of the constriction is the critical part of the procedure. On the whole, he does not think that this belt constriction is destined to extensive application in gynecology or in obstetrics except for the cases in which the belt can be applied as the first and most promising measure to arrest severe hemorrhage, especially from lacerations.

Mitteilungen aus den Grenzgebieten der Med. und Chir., Jena

XXIII, No. 3, pp. 343-542. Last indexed July 22, p. 349

145 Induced Shriveling and Induration of the Lung by Ligation of Branches of the Pulmonary Artery. (Die künstliche Erzeugung von Lungenschrümpfung durch Unterbindung von Aesten der Pulmonalarterie.) O. Bruns and F. Sauerbruch.
146 *Rare Chronic Form of Tuberculous Meningitis. Strasmann.
147 *Sequestration Anemia and Its [illegible] at Operations and Its Effect [illegible] Aufspeicherung von Blut in den [illegible] auf die Blutung bei Operationen [illegible] auf den Organismus.) H. Zoeppritz.
148 Danger from Tardy Cumulation of Injurious Influences After Chloroform General Anesthesia. (Ueber Spätwirkungen der Chloroformnarkose.) R. Stierlin.
149 Research on the Effect of Measures to Raise and Lower the Local Temperature. (Ergebnisse von thermoelektrischen Messungen über die örtliche Beeinflussung der Hautwärme durch unsere Wärme- und Kältemittel und über die Tiefenwirkung dieser physikalischen Massnahmen am lebenden Körper.) H. Iselin.
150 Motor Function of the Pylorus After Resection of the Stomach. (Die motorische Funktion des Sphinkter pylori und des Antrum pylori beim Hunde nach der queren Durchtrennung des Magens.) M. Kirschner.
151 Cholelithiasis and Suppurative Pylephlebitis Under the Clinical Picture of Healing Abscesses in the Liver. P. Heinrichsdorff.
152 *Exclusion of Ascending Colon for Certain Cases of Obstipation with So-Called Chronic Appendicitis. E. Stierlin.
153 *Streptothrix Mycosis of the Lung. E. Liek.

146. **Chronic Tuberculous Meningitis.**—Strasmann reports a case of meningitis in a man of 38 which had run an extremely slow and protracted course, presenting symptoms apparently typical of the syndrome induced by a tumor in the hypophysis. On this assumption an exploratory trephining operation was done seeking to relieve the intolerable headaches, but no tumor was found and the patient died twelve days thereafter, about three years after the first symptoms of trouble. Necropsy disclosed a chronic diffuse tuberculous meningitis involving especially the chiasm and optic nerve. He publishes the case in detail to warn others against such pseudotumor cases. Hildebrand operated in a similar case and the tuberculous process healed afterward. In Strasmann's case the man had had for eight years a skin affection resembling lupus erythematodes, and he gradually became very obese, languid and somnolent. During the last year there had been recurring, intense headache and constipation, the papillæ were blanched and the somnolency kept increasing, and vomiting and dizziness occurred at times. The Wassermann reaction was negative and the headaches were not of the nocturnal type and there were no signs of inherited or acquired syphilis. Further testimony against syphilis was the chronic progressive course of the symptoms without any marked fluctuations and without any tendency to paralysis or irritation of all the basal cranial nerves. When the microscope revealed tuberculosis it was a great surprise, as there had been no fever nor high pulse-rate, no rigidity or pain at the back of the neck and none of the usual symptoms of trouble at the base of the brain, while the patient had kept well nourished throughout the three years' course of the affection.

147. **Shutting Off Part of Circulating Blood and Effects of the Procedure.**—Zoeppritz writes from the surgical clinic at Kiel in charge of Anschütz to report the results of sequestration of the blood in the extremities as a preliminary to operations. In 23.2 per cent. of the 112 cases the bleeding was exceptionally slight, in 30.3 per cent. slight, and in 46.5 per cent. no effect on the operative hemorrhages could be detected. He classifies the operations according to their site and the amount of hemorrhage. The influence of the sequestration in reducing a tendency to bleeding was most marked in operations on the spine, then, in turn on the head, neck, chest and abdomen. A favorable influence on the course of the anesthesia was evident in a few but not in all cases. There was no tendency to after-hemorrhage in any instance, but symptoms were observed in a few cases suggesting that the method had better be regarded as contra-indicated in case of pressure on the brain, arteriosclerosis, blood-diseases and varicose veins, on account of danger of thrombosis, but this need not be feared with normal vessels. By applying constriction to the roots of the limbs, it is possible thus to sequestrate a fourth of the total amount of blood (1,300 to 1,500 c.c.). The body reacts to this with a lower blood-pressure and acceleration of pulse and respiration. This sequestration method is particularly advantageous in operations on the brain and spine and when there is reason to dread a parenchymatous hemorrhage. He followed Dawbarn's technic at first but later modified it a little, applying the constriction to both arms and thighs from forty-five to sixty minutes before the operation, and drawing the elastic bands tight enough to arrest the venous blood circulation completely, overcoming the diastolic blood-pressure but respecting the arterial circulation as much as possible. In Bier's constriction hyperemia the constriction has to be only equal to or just

below the diastolic blood-pressure, while Klapp's technic shuts off both the arterial and venous circulation. Zoeppritz' long article discusses the subject from every point of view, including the results of experiments to determine the actual amount of blood that can be thus stored up in the extremities. By-effects were observed only in patients with abnormally high blood-pressure or arteriosclerosis or some blood disease or varicose veins, and these conditions contra-indicate the method principally on account of the danger of inducing anemia in the brain. This applies also to infectious diseases, intoxications, etc., inducing a tendency to vasomotor paralysis.

152. **Operative Treatment of Obstipation.**—Stierlin refers to the cases in which the feces accumulate and stagnate in the cecum and ascending colon and induce the symptoms ascribed to chronic appendicitis, impairing the general health and refractory to all internal measures, and in which roentography locates the stagnation at these points instead of at the sigmoid or other flexures. He excludes the ascending colon by implanting the lower end of the ileum in the transverse colon, resecting the ascending colon or not according to the case, and has done this in ten cases with good end-results in nine; the outcome in the tenth case is not known.

153. **Streptothrix Mycosis of the Lung.**—The case reported by Liek is, he thinks, the first on record in which a serious affection of this kind was arrested and cured by resection of the gangrenous focus. His patient was a man of 44 and the operation was done about five months after the first symptoms had been observed.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

July, XXXIV, No. 1, pp. 1-132

154 The Mammary Theory of Eclampsia. (Das Martyrium der [illegible] Wissenschaft.) H. Sellheim.
155 (Ergebnis der Debatte der XIV [illegible] s über die Urogenitaltuberkulose.) B. Kronig.
156 * [illegible] and Treatment of Retroflexion of Pregnant [illegible]
157 [illegible] K. Flesch.
158 [illegible] Technic for Extraperitoneal [illegible] im.
159 Serotherapy of Puerperal Sepsis. G. Bohnstedt.

August, No. 2, pp. 133-273

160 What the Peritoneum Will Stand and What It Will Not Stand. (Ueber die peritoneale Wundbehandlung.) E. Bumm.
161 Ciliated ar [illegible] in the Uterus. (Flimmerndes [illegible] L. Mandl.
162 Roentother [illegible]
163 Malignant [illegible]
164 Obstetrics [illegible] shülfe und Säuglingssterblichkeit.) [illegible]
165 Treatment of Stump of Umbilical Cord. (Neue Beiträge zur Behandlung des Nabelschnurrestes der Neugeborenen.) F. Petermöller.
166 The Cancer-Statistics Question. E. Aulhorn.

156. **Treatment of Retroflexion of Pregnant Uterus.**—Graefe has investigated conditions in regard to the disturbances from this cause in 200 women and found that sixty-one had experienced no local discomfort from this displacement of the uterus. The pregnancy was in the second or fourth month and in two of these patients the uterus was very large, owing to the additional presence of a myoma. These sixty one cases show that retroflexion does not necessarily cause pain or discomfort even when the uterus is unusually large. One patient in this group had had severe sacral pains but after cure of a coincident suppurative catarrh of the cervix and large erosion the pains vanished permanently, although the retroflexion persisted uncorrected. Only seventeen of the total 200 complained of a sensation of downward pressure and only seven of pressure on the rectum. In six of these seven this sensation persisted after the uterus had been restored to place, suggesting that it was purely a nervous phenomenon. None of the patients complained of disturbances in defecation. Only twenty-five of the total 200 complained of traction on the bladder and tenesmus, and these were eight women in the second month, twelve in the third, four in the fourth and one in the fifth month of pregnancy, while thirty-eight other women from two to six months pregnant had no bladder disturbances, not even the two with incarcerated retroflexion. One patient complained of pain radiating to the leg, but it persisted unmodified after the uterus had been restored to place. As a rule disturbances were noted only in women inclined to nervousness or hysteria. Abortion occurred in only thirty-one of the 200 cases, the interval after correction ranging from the first days to four months, and in two of these cases the abortion was criminally induced, while the other women had severe venereal disease. Graefe thinks that the retroflexion alone does not induce abortion but that it has a favoring influence when the uterus is already pathologic. Severe pain and hemorrhage, even slight, indicate at once correction of the retroflexion, as also incarceration of the retroflexed uterus, and in any event he thinks that an attempt should be made to correct the displacement as labor pains and hemorrhage may occur at any moment. A point of great importance in the correction is to keep the bladder empty. Correction succeeds sometimes only with the patient in the knee-elbow position. In some cases the uterus rights itself in a day if the patient lies on her side, or, better yet, in the ventral decubitus in bed. In one incarcerated case the uterus righted itself in six hours after an inflatable bag had been introduced into the vagina and filled with 400 gm. of water. If the adhesions are tough and the patient suffering and all other means fail, a laparotomy becomes necessary although he had to resort to it only in one case. In two cases Goldberg's maneuver accomplished the purpose (described in The Journal, Jan. 21, 1911, page 231).

Münchener medizinische Wochenschrift

September 5, LVIII, No. 36, pp. 1897-1944

167 Combined Treatment of Cancer. (Therapie der Krebse.) V. Czerny. (Wert der Kombination von Röntgenstrahlen- und Hochfrequenzbehandlung bei malignen Tumoren.) R. Werner and A. Caan.
168 *Etiology of Hypertrophy of the Prostate and Indirect Roentotherapy. Wilms and H. L. Posner.
169 Mechanism of Kidney Secretion. (Zur Mechanik der Nierensekretion.) C. Jacobi.
170 *Constipation with Chronic Appendicitis. (Ueber die Obstipation vom Aszendenstypus.) E. Stierlin.
171 Epidemic Meningitis. (Klinische Beobachtungen bei Genickstarre.) F. Mann.
172 The Pathology of Infants Fed on Artificial Foods Containing Starch. (Beitrag zur Pathologie des Mehlnährschadens der Säuglinge.) B. Salge.
173 *Pseudofever in Children. G. Avellis.
174 Objective Determination of Pathologic Cytosis in Cerebrospinal Fluid. W. Geissler.
175 Determination of Proportion of Epinephrin in Blood. P. Trendelenburg.
176 Suturing Machine to Use After Resection of Stomach and Intestines. (Nähapparat für Magen- und Darmresektionen.) F. Hahn.
177 *Neurorecurrences After Salvarsan. (Ueber Neurorezidive nach Salvarsan, speziell Polyneuritis.) E. Trömner and E. Delbanco. Commenced in No. 35.

168. **Influencing of Hypertrophy of the Prostate by Roentgen Exposures of the Testicles.**—Wilms and Posner remark that the gynecologists' discovery that myomas in the uterus can be made to retrogress by exposing the ovaries to the Roentgen rays has suggested that the enlargement of the prostate may be analogous to the development of a myoma, and that it can be indirectly influenced in the same way. The gynecologic experiences suggest that the growth of the myomas is stimulated by some substance generated in the ovaries, and that by reducing the vital action of the ovaries this substance is no longer produced and the myoma withers away. The condition in a hypertrophied prostate is remarkably like that in a myomatous tumor. Zuckerkandl has recently called attention to his finding intact tracts in the prostate when parts of it were much hypertrophied, and that the nodular new growth is essentially in the upper part of the prostate, while the prostate, like the uterus, attains its development with puberty. These and other facts confirm the assumption of a hormone generated in the testicles as responsible for the adenomyomatous nodules developing in the prostate. They suggest that the enlarged prostate can be made to shrivel away to approximately normal size by inducing the retrogression of the testicles, and this can be done in the simplest and most harmless manner by exposing them to the Roentgen rays, as he found in the one case in which he has applied the method to date. The patient was a healthy farmer of 69 and the prostate had gradually become enlarged until retention was complete. The testicles were then exposed to a three-fourths Sabouraud dose of Roentgen rays and four days later there was some spontaneous emission of urine.

By the fifth day the catheter was no longer necessary and micturition soon became entirely normal and the prostate perceptibly smaller, but there was still 70 c.c. of residual urine. A second similar exposure was then made three weeks after the first, since which time conditions in regard to urination have been quite normal and the patient has been in continuously good health.

170. See Abstract 152 above.

173. **Pseudofever in Children.**—Avellis has encountered a number of children apparently healthy but with a rectal temperature above normal for weeks or months at a time. After exclusion of all other causes he compared the rectal with the axilla temperature, and found the latter constantly normal. The conclusion seems inevitable that some local process, possibly merely the vital processes of the intestinal bacteria, may be accepted as the source of this local temperature. In some cases he was able to reduce the temperature to normal by putting the child on a yoghurt or clabber diet; this evidently modified the intestinal flora. He warns that the temperature in these cases is not an evidence of fever and that the children should not be kept in bed. He urges physicians to be on the lookout for this pseudofever and not be misled to ascribe it to tuberculosis, etc.

177. **Neurorecurrences After Salvarsan Treatment, Especially Polyneuritis.**—Trömner and Delbanco report three cases of severe manifestations of so-called neurorecurrence in syphilitics under salvarsan treatment. The first patient was a young man given two intravenous injections of salvarsan in the fourth month after infection, and they were followed two months later by multiple paralysis of cranial nerves. There was total deafness on the left side, with the characteristics of a true syphilitic affection of the auditory nerve on this side, while on the right side the symptoms indicated a toxic injury of the right auditory nerve. In the second case a woman of 28 developed weakness and paralysis in the domains of the first, sixth, seventh, ninth and eleventh cranial nerves two months after an intragluteal injection of salvarsan, and as these phenomena subsided signs of mild polyneuritis became evident. There has been improvement during the six months since, but certain symptoms still indicate meningitic irritation. The case was complicated by a tendency to hysteria. The peripheral polyneuritis in this case and in a third and more severe case are, they think, the first syndromes of the kind observed under salvarsan. It was extremely severe in the third case, developing two months after the injection; the normal pupil reaction and lack of sensory disturbances spoke against tabes. The muscles of the left leg give the reaction of degeneration to electric tests and the reaction was sluggish in the other leg. The patient was a machinist of 33 with no history of syphilis but a positive Wassermann reaction. He suddenly developed crossed hemiparaplegia which gradually improved under mercurial treatment so that he was able to get about on crutches. At his request then an intramuscular injection of 0.3 gm. salvarsan was made. Eight days later the signs of peripheral polyneuritis became evident and persisted with little improvement during the three months since, while only the Babinski and Oppenheim reactions were left of the preceding Brown-Séquard syndrome. Trömner differs from Delbanco in his opinion in regard to the mechanism of these neurorecurrences. He believes that salvarsan is liable to display a direct toxic action with or without the presence of syphilis, and an indirect specific action in syphilis, either by inducing an early inflammatory reaction or by reactivating syphilitic processes during a certain critical period lasting about two months after the injection. That these recurring manifestations are generally in the form of multiple neuritic or perineuritic paralyses of the cranial or, more rarely, of the peripheral nerves is due in part to a special affinity of the drug for nerve tissue. A direct neurotoxic action should be assumed only in the rare cases in which the mischief develops early and runs a malignant course.

Delbanco on the other hand ascribes the neurorecurrences to a direct toxic action on the nerve, and consequently decries the idea of treating them with more of the drug or even with mercury. He wonders what will be the ultimate fate of an auditory nerve, for instance, after toxic injury of this kind, then suffering later from the influence of the syphilis which in turn is arrested by mercury. Will the nerve after these varied experiences be more exposed to injuries later or not? He discusses in detail the literature that has appeared on the subject of neurorecurrences in syphilis since salvarsan has been introduced, and cites from a personal communication from Ehrlich, who was consulted in regard to the polyneuritis cases before the report was published. Delbanco insists that only those cases in which salvarsan has been given alone, without mercury, are strictly demonstrative and suitable for statistical comparison. He adds that the explanation advanced for the neurorecurrences in the auditory nerve, namely, that the natural reaction which otherwise does no harm, causes disturbance here, as the nerve is shut in tight in a narrow bony passage, cannot apply to his cases of peripheral polyneuritis. He adds that the future will teach whether salvarsan exerts an appreciable neurotropic action in nonsyphilitics. The Wassermann reaction is, he thinks, merely a sign that the organism has been in contact with the syphilis germ, and when the diagnosis of syphilis is otherwise clear he does not allow his treatment of syphilis to be guided by the absence or presence of the reaction. The question as to why the salvarsan exerts a toxic action only on certain nerves and not on others cannot be answered any more than why other poisons, especially lead, act on certain groups of muscles and not on others. He admits, however, that the recurrences in syphilis have been subjected to far closer scrutiny since the introduction of salvarsan, but he protests most decidedly against the statement recently made by Benario that in 1 per cent. of all cases of syphilis there is recurrence of symptoms in the large cranial nerves. This cannot be true of cases in which mercurial treatment has been systematically applied.

Therapeutische Monatshefte, Berlin

September, XXV, No. 9, pp. 525-580

178 *Nervous Vomiting in Infants. (Wesen und die Behandlung des nervösen Erbrechens im Säuglingsalter.) F. Rott.
179 Cumulative Action of Digitalis. C. E. Focke.
180 Conservative Treatment of Acute Otitis Media. (Konservative Behandlung der akuten Mittelohrentzündung.) H. Obermüller.
181 *Operative Treatment of Prolapse of Rectum in Children. (Mastdarmvorfall bei Kindern.) H. Sack.

178. **Nervous Vomiting in Infants.**—Rott refers to the vomiting which resists correction of the diet and for which no cause can be discovered. In this form the vomiting generally starts during the first weeks of the child's life, and it may simulate the clinical picture of pyloric spasm except for the lack of peristalsis in the stomach and of the palpable tumor at the pylorus. He has encountered six cases of this kind during the last two years; in three the vomiting was of an explosive character, immediately after the meal or an hour or so later. Only one of the six infants had reached the fourth month; two were breast-fed and all showed signs of nervous irritability, the children being remarkably restless before the vomiting came on, and the muscles were tense. In four cases an inherited nervous taint was evident. The facts observed suggested that the trouble was a hypersensitive condition of the stomach mucosa due to a congenital nervous irritability. Treatment to reduce this irritability proved remarkably successful in his cases; he gave 10 c.c. of a 0.01 per cent. solution of cocain, that is, 1 mg. of cocain, five times a day, ten minutes before feeding. In three cases the tendency to vomiting completely disappeared within three days; in one case the vomiting recurred on one day after an interval of four days. He gave the cocain for six days regardless of whether the vomiting had ceased, and no by-effects were observed suggesting intoxication, although all the children quieted down. The attempts of others with cocain have failed because it was given with the meals, too late to suppress the irritation from the food. The children have all developed well since, except that some are still unduly nervous. In two other cases the vomiting was not influenced by the cocain; it was never of a spastic character, the stomach content flowing without effort out of the mouth, once a day

or after each meal. The abdomen and muscles were generally flabby and the vomiting seemed to be due to atony, on which the cocain had no effect. One child died; the other grew stronger as the vomiting gradually subsided in the course of a few weeks, but the child developed a tendency to spasmophilia. In two cases of pyloric spasm the cocain was given in the same way and the vomiting became less frequent, the stools normal and the children less restless. These results encourage further trials of cocain with pyloric spasm, possibly combined with other sedatives.

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Wiener klinische Wochenschrift, Vienna

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Zeitschrift für Kinderheilkunde, Berlin

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Zeitschrift für klinische Medizin, Berlin

LXXIII, Nos. 1-2, pp. 1-168. Last indexed June 17, p. 1865

195 Sino-Auricular Heart-Block. (Reizleitungsstörungen zwischen der Bildungsstätte der Ursprungsreize der Herzkontraktionen im Sinus der oberen Hohlvene und dem Vorhof.) G. Riebold.
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200 Behavior of Cardiovascular System in Two Cases of Bradycardia. (Verhalten des Herzgefasssystems in zwei Fällen von Bradykardie nebst Beiträgen zur neueren Untersuchungsmethodik, Physiologie und Pathologie des Gefässsystems.) E. Münzer.
201 Functional Tests of the Liver. I. (Verhalten des Aminosäuren- und Peptid-N im Harn.) F. Falk and P. Saxl.
202 Medicine and Folk Lore in Russia. (Volksmedizin und ärztliche Kunst in Russland.) V. Salle.

Zentralblatt für Chirurgie, Leipsic

September 9, XXXVIII, No. 36, pp. 1209-1240

203 *Plastic Operation on Esophagus with Aid of the Transverse Colon. (Osophagoplastik mit Hilfe des Querkolon.) G. Kelling.
204 Operative Treatment of Tumors in Nasopharynx. (Nasen-Rachengeschwülste.) Z. Slawinski.

203. **Transverse Colon for Plastic Operation on the Esophagus.**—Kelling attempted to relieve a woman of 45 with an inoperable carcinoma in the esophagus by making a new segment out of a strip resected from the transverse colon, suturing one end in the anterior wall of the stomach and connect-

ing the other end with the esophagus above the tumor by an intervening tube formed of the skin of the chest, with a T drain to drain away the saliva. The results of the operation were excellent but the patient succumbed to the effects of the cancer in two weeks. The case teaches that the transverse colon is well adapted for the purpose, and, secondly, that operations of this kind in cases of cancer of the esophagus, seldom offer prospect of success, owing to the ulceration and stagnation in the tumor and the intense reflex salivation. The absorption of toxins from the cancer has an unfavorable action on the secretions of the pancreas, etc., so that the food is not properly assimilated. The results of plastic operations with cancer of the esophagus, therefore, cannot be compared with those with pyloric cancer.

Zentralblatt für Gynäkologie, Leipsic

September 9, XXXV, No. 36, pp. 1265-1296

205 *Gynecologic Lesions and Suicidal Mania. (Die gynäkologischen Läsionen bei der Manie des Selbstmordes und die gynäkologische Prophylaxe gegen den Selbstmord beim Weibe.) L. M. Bossi.
206 *Pregnancy and Delivery in Tabes Dorsalis. Jakub.
207 Premonitory Symptoms of Thrombosis and Embolism. H. Michaelis.

205. **Gynecologic Prophylaxis of Suicidal Mania.**—Bossi's experience with the cure of a tendency to melancholia and mania by correction of abnormal conditions in the genitalia was summarized in THE JOURNAL, September 30, page 1173, abstract 165. He urges here the especial importance of the task of gynecologists in a sound prophylaxis against suicide.

206. **Pregnancy in Tabetic Women.**—Jakub reports the course of pregnancy and delivery in a woman of 36 infected with syphilis at 28 and with signs of tabes dorsalis during the last seven years. This experience confirms the privilege of tabetics over normal women, in that delivery proceeds rapidly and entirely painlessly. The entire childbirth is analogous to what is observed in animals after artificial destruction of the spinal cord; it confirms anew the admirable autonomous nervous apparatus of the uterus which enables it to carry the fetus to term and expel it at the proper time automatically.

Gazzetta degli Ospedali e delle Cliniche, Milan

August 31, XXXII, No. 105, pp. 1107-1114

208 *Abdomen Retraction with Gastric Cancer Free from Metastasis. (Del segno di Tansini per la diagnosi di metastasi intestinale nel cancro del piloro.) S. d'Este.

September 3, No. 106, pp. 1115-1130

209 Perforating Ulcer of the Foot. (Sul mal perforante plantare.) G. Tomaselli.

September 5, No. 107, pp. 1131-1138

210 Carbolized Glycerin in Local Treatment of Erysipelas. M. Lodi.

September 7, No. 108, pp. 1139-1146

211 Banti's Disease. F. Piria.

208. **Depression of the Abdomen with Cancer of the Pylorus and Bulging When There is Metastasis.**—Este reports a third case in which Tansini's sign was present and threw light on the condition. In all his experience with cancer at the pylorus or cicatricial stenosis he always found the abdomen drawn in except in those cases in which operation revealed cancerous nodules at some point in the intestines.

Riforma Medica, Naples

September 4, XXVII, No. 36, pp. 981-1008

212 Intratracheal Insufflation According to Meltzer. R. Falcone.
213 Mononucleosis with Gastric Cancer. G. Costantini.
214 Local Eosinophilia in Rabbit Coccidiosis. P. Ballette.
215 Wassermann Reaction Negative in Pellagra. C. Vallardi.

Hospitalstidende, Copenhagen

August 2, LIV, No. 31, pp. 857-880

216 *The Wassermann Reaction and Resistance to Heat of Antibodies Involved. (Wassermann's Reaktion betragtet som et ikke isoleret Fænomen.) O. Thomsen and H. Boas.

August 9, No. 32, pp. 881-912

217 Case of Male Pseudohermaphrodism. J. Mourier.
218 *Treatment of Syphilis of Heart and Vessels. (Behandlung af de syfilitiske Hjerte- og Karsygdomme.) A. Øigaard. Commenced in No. 30.

August 23, No. 34, pp. 939-968

219 Prolapse of the Placenta. I. P. Hartman. Commenced in No. 33.
220 *Systemic Intoxication Originating in Uterine Fibromyomas. J. Kaarsberg

August 30, No. 35, pp. 969-1000

221 Ammonia Content in Urine and Its Relation to the Gastric Secretion. (Om Ammoniakmængden i Urinen og dens Forhold til Ventrikelsekretionen.) S. A. Gammeltoft.
222 Anilin Stains in Tests for Bile Pigments in the Urine. (Om Anvendeligheden af Anilinfarver som Reagens paa Galdefarvestof i Urinen.) O. V. Petersen.

216. **Resistance to Heat of Antibodies Giving the Wassermann Reaction.**—Thomsen and Boas call attention to the fact that the Wassermann reaction occurs regularly with serum from non-syphilitic patients, with cancer, nephritis, scarlet fever, leprosy and tuberculosis, if the serum is not heated, but the syphilitic serum is the only one that gives the reaction after the serum has been heated to 56 C. for half an hour, which is a necessary element in the true Wassermann technic. The heating sifts out all but the true syphilitic cases, the syphilitic serum being the only thermoresisting one. This thermoresisting property is particularly pronounced in inherited syphilis; in the first phase of syphilis the thermoresistance is slight, probably no higher than with cancer, nephritis, etc. The question now is whether this thermoresistance is the property of the antibodies generated or of the medium containing them, but the research reported seems to have established beyond question that these antibodies which give the Wassermann reaction occur regularly in various diseases, while their resistance to application of heat varies within a wide range.

218. **Syphilitic Cardiovascular Disturbance.**—Øigaard reviews his experience with twenty patients of this category, expatiating particularly on the frequently indispensable aid to be obtained from the Wassermann reaction in diagnosis of syphilis of the heart and vessels. There are three principal types of syphilitic affections of the cardiovascular system, aneurysm at the arch of the aorta, aortic insufficiency and syphilitic aortitis. The latter can generally be diagnosed from the clinical picture alone. The Wassermann reaction in all these types is usually very pronounced even when the infection is of twenty to forty years' standing. Treatment was successful only with mercury in his twenty cases, and the results were often surprisingly good, far better than are obtainable by any means with heart disease of other origin. He never witnessed any benefit from iodid in these syphilitic heart and vascular affections. He advises keeping up the mercury until the subjective symptoms have subsided and the Wassermann reaction has become negative after suspension of the treatment for at least three weeks. After the Wassermann reaction has once become negative under treatment, it can no longer be utilized as a guide in treatment—the flaring up of symptoms anew requires renewed specific treatment, regardless of the Wassermann findings. One of his patients with albuminuria (syphilitic nephritis) and intense Wassermann reaction was entirely cured by a three months' course of mercury and iodid. The details of his twenty cases are given in full.

220. **Intoxication from Fibromyoma in the Uterus.**—Kaarsberg has had two patients with fibromyomas in the uterus decaying without suppuration but absorption of necrotic matters caused fever. The growth was seen to increase rapidly in size during two or three weeks, which clinched the necessity for its removal. There were no other symptoms but the fever, no pains nor tenderness. In one case the necrosis was evident only on microscopic examination. In a third case a woman of 70 died after a period of fever suggesting typhoid, but necropsy disclosed no cause for the fever except a central patch of necrosis in a large fibromyoma in the uterus. In other cases a latent necrosis may induce a more chronic intoxication; the temperature may be normal or only slightly above, but the pulse is accelerated and the patient feels weak and cachectic. In the course of four or five months considerable anemia may develop, although without appreciable hemorrhages. Kaarsberg's patient was so weak she swooned twice during the examination. There was a blowing sound at the heart but no purulent or fetid vaginal discharge. The temperature ran up very high a few days before death, having previously been normal; the pulse had been 100. The rise in temperature was accompanied by a purulent discharge from the vagina and the uterus was at once removed but the

or after each meal. The abdomen and muscles were generally flabby and the vomiting seemed to be due to atony, on which the cocain had no effect. One child died; the other grew stronger as the vomiting gradually subsided in the course of a few weeks, but the child developed a tendency to spasmophilia. In two cases of pyloric spasm the cocain was given in the same way and the vomiting became less frequent, the stools normal and the children less restless. These results encourage further trials of cocain with pyloric spasm, possibly combined with other sedatives.

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Zentralblatt für Chirurgie, Leipsic

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Zentralblatt für Gynäkologie, Leipsic

September 9, XXXV, No. 36, pp. 1265-1296

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Gazzetta degli Ospedali e delle Cliniche, Milan

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September 5, No. 107, pp. 1131-1138

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Riforma Medica, Naples

September 4, XXVII, No. 36, pp. 981-1008

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or after each meal. The abdomen and muscles were generally flabby and the vomiting seemed to be due to atony, on which the cocain had no effect. One child died; the other grew stronger as the vomiting gradually subsided in the course of a few weeks, but the child developed a tendency to spasmophilia. In two cases of pyloric spasm the cocain was given in the same way and the vomiting became less frequent, the stools normal and the children less restless. These results encourage further trials of cocain with pyloric spasm, possibly combined with other sedatives.

181. **Operative Treatment of Prolapse of the Rectum in Children.**—Sack reviews the nine different methods on record for correction of rectal prolapse in children, with the experiences reported to date. All confirm the superior advantages of the latest technic, that published by Sick in 1909, tamponing the retrorectal space. Ritter has modified it somewhat, and Sack reports the details of two cases in which it has been applied with unusually favorable results, the little patients being able to be up and about at once, defecation not being interfered with and reexamination seven and fourteen months later confirming the advantages of this simple and harmless technic. The only incision is made from the tip of the coccyx to the edge of the sphincter. The loose connective tissue behind the rectum is then separated with a blunt instrument up to the promontory, thus detaching the rear wall of the rectum, and a passage is made entirely around its lower segment. A broad strip of gauze is then worked through this passage to encircle the lower part of the rectum and the ends are brought out, crossed and fastened to the skin above the coccyx. A second gauze strip is pushed up between the rear wall of the rectum and the sacrum. The incision is then sutured except at the top where the ends of the gauze emerge. By this means the rectum is enticed to become broadly adherent to the surrounding tissue and the tendency to prolapse is cured. In both his cases the tampons could be removed the fifth day while the child was allowed to defecate normally from the first, the strip encircling the lower part of the rectum effectually preventing any tendency to prolapse.

Wiener klinische Wochenschrift, Vienna

September 7, XXIV, No. 36, pp. 1267-1294

182 *The Conjunctival Tuberculin Test in Urology. R. Paschkis and F. Necker.
183 Immediate Benefit from Splenectomy in Acquired Hemolytic Jaundice with Enlarged Spleen, Hayem-Widal Type. F. Micheli.
184 Traumatic Pseudomeningoceles. J. Winkler.
185 Prostatic Adenoma Removed by Aspiration During Lithotripsy. K. Frank.

182. **The Conjunctival Tuberculin Reaction in Urology.**—Paschkis and Necker state that a further series of 125 urologic cases confirms the conclusions of their first series of forty-two cases, reported in 1908, to the effect that the ophthalmo-reaction is one of the numerous diagnostic measures which are instructive in the puzzling cases. They commend the simple technic, declaring that in their experience to date it has been harmless. A negative conjunctival reaction with evident tuberculosis of one kidney, even although its mate is apparently functioning normally, is a bad sign. In their four cases of this kind the patients all died in a few months.

Zeitschrift für Kinderheilkunde, Berlin

July, III, No. 1, pp. 1-113

186 *The Electric Reaction with Spasmophilia. E. Reiss.
187 Indicanuria in the New-Born. A. v. Reuss.
188 The Streptococci in Scarlet Fever. (*Zur Kenntnis der Streptokokken bei Scharlach.*) F. Schleissner.
189 Adrenal Functioning in Infants. (*Die Nebennierenfunktion im Säuglingsalter.*) S. Samelson.
190 Attenuation of Scarlet Fever by Prophylactic Injections of Serum. (*Die Konkurrenz der Antigen in Klinik und Experiment.*) E. Benjamin and O. Witzinger.

August, No. 2, pp. 114-189

191 *Stagnation of Heat and Salt Fever. (Wärmestauung und Salzfieber.) P. Heim and K. John.
192 Bacteriology of Whooping-Cough. (Der Bordet-Gengousche Bacillus in [illegible] ns.) G. Finizio.
193 The Normal [illegible] n Children. (Zur Beurteilung [illegible] beim Kinde.) A. Wolff.
194 *The Cerebrospinal Fluid in Tuberculous and Serous Meningitis. (Ergebnisse der Permanganattitration des Liquor cerebrospinalis.) E. Mayerhofer and R. Neubauer.

186. **Lime as Factor in Electric Reaction in Spasmophilia.**—Reiss reports experimental and clinical experiences which sustain the assumption that extreme neuromuscular excitability in children is due in part to lack of normal proportions of lime in the tissues. He concludes further that lime is the only one among the cations indispensable for the human organism investigated to date, which influences the electric reactions by its varying concentration. At the same time there must be other factors involved, as the varying lime content does not explain all the phenomena observed, although the theory of a deficiency in lime as the direct cause of the spasmophilic syndrome explains several essential features of it.

191. **Stagnation of Heat and Salt Fever.**—Heim and John report further research on alimentary fever in infants and especially the fever that follows intake of salt. They have become convinced that physical factors predominate in it, the salt causing retention of water and thus interfering with the normal throwing off of heat by means of sweating and urinating. The salt induces retention of water and this in turn induces stagnation of heat.

194. **The Cerebrospinal Fluid in Serous and Tuberculous Meningitis.**—Mayerhofer and Neubauer commend the potassium permanganate method of examination of the cerebrospinal fluid as a rapid and reliable method of investigating the metabolic processes occurring in the central nervous system. The findings are not only instructive for the diagnosis, but throw light on the prognosis. They have examined the fluid in 118 cases, with 182 punctures and 518 separate tests of the fluid. The children had meningitis of various origins, convulsions or poliomyelitis. In all this material the findings in tuberculous meningitis were constantly increased, the increase ranging from 2 to 30 or 37.3. Such high figures were obtained otherwise only in tuberculous pleurisy or peritonitis. At the same time they warn that this alone is not sufficient grounds for assuming a tuberculous meningitis unless confirmed by repeated reexaminations. With meningeal symptoms of other origin, the test shows figures under 2 as a rule, and this low figure persists even when the naked-eye aspect of the fluid indicates suppuration. The last series of 100 children examined are reported in detail with the necropsy findings in fifty-two of the fifty-five meningitis cases, and the various methods of examining the cerebrospinal fluid are discussed and the advantages of permanganate titration are extolled. The technic for this test was described in The Journal, June 11, 1910, p. 2009.

Zeitschrift für klinische Medizin, Berlin

LXXIII, Nos. 1-2, pp. 1-168. Last indexed June 17, p. 1865

195 Sino-Au[illegible] He[illegible] [illegible] der [illegible] im S[illegible]
196 Res[illegible] of Organs with an Internal Secretion. [illegible] das Vorkommen von "Vagotonus und [illegible] K. Petren and I. Thorling.
197 Stomach Functioning in Health. (Physiologische Beiträge zur Funktion des Magens.) Külbs.
198 The Horse Power of the Pulse. (Neuren Methoden der dynamischen [illegible]
199 Influence o[illegible] and Artificial Arsenical Waters. [illegible] wässer und künstlicher Arsenlös[illegible] S. Croce.
200 Behavior o[illegible] System in Two Cases of Bradycardia. (Verhalten des Herzgefasssystems in zwei Fällen von Bradykardie nebst Beiträgen zur neueren Untersuchungsmethodik, Physiologie und Pathologie des Gefässsystems.) E. Münzer.
201 Functional Tests of the Liver. I. (Verhalten des Aminosäuren- und Peptid-N im Harn.) F. Falk and P. Saxl.
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patient died the next day. Parenchymatous degeneration of the organs was evident, especially of the myocardium. In a fourth case the symptoms and course were exactly the same but the fibromyoma in the uterus was not decaying, no trace of necrosis could be detected even with the microscope. The case demonstrates that a fibromyoma even without necrosis is liable to induce intoxication and degeneration of the myocardium. In a fifth case no operation was attempted and the patient died after four or five months of chronic debility and hemorrhages from a fibromyoma in the uterus. In this case also degeneration of the myocardium was the direct cause of death. This assumption that a uterine fibromyoma —even without necrosis—may induce chronic intoxication is sustained by the way in which such patients improve rapidly in health after removal of the growth. He urges the necessity for keeping an oversight of patients suspected to have these growths and increasing weakness, especially on the part of the heart. The detailed case histories are appended.

Hygiea, Stockholm

August, LXXIII, No. 8, pp. 913-1024

223 *Weight of a Drop. (Om droppvikt.) K. Ahlberg.
224 *Resection of Stomach for Cancer; Operative Mortality and End-Results. J. Waldenström.

223. **Weight of a Drop.**—Ahlberg discusses the inaccuracies that are liable unless the exact weight of the drop of different fluids is known, and he gives a series of tables showing the exact weight in turn of twenty, thirty, forty to eighty drops of a number of common tinctures, extracts, acids, etc., and in another series the number of drops to a gram. The number ranges from twenty to sixty drops to the gram, tincture of digitalis having fifty, fluid extract of ergot thirty, tincture of opium forty, and the 1 to 1,000 epinephrin solution only twenty according to his experience.

224. **Resection of the Stomach for Cancer.**—Waldenström compares the statistics from some leading German, Swiss American and Swedish clinics, showing that Mikulicz had the highest percentage of survivors for more than three years after resection of the stomach for malignant disease, his figure being 30 per cent., or 39 per cent., if only the last three years of his work are included. Waldenström gives the details of the fourteen cases in which the patients have been free from recurrence for more than three years since the operation done at the Serafimer Hospital at Stockholm, out of a total of ninety-three patients thus operated on between 1888 and 1907. He urges efforts to convince patients of the advisability of a harmless exploratory laparotomy when there are symptoms of chronic dyspepsia and deficient gastric secretion while the patients are losing weight. Cooperation between the internist and the surgeon seems to be the only way to realize further progress in treatment of gastric cancer. In the successful cases reported from the Serafimer, the first symptoms had been noticed from two months to eight years before operative treatment was applied.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

COMPENDIUM OF REGIONAL DIAGNOSIS IN AFFECTIONS OF THE BRAIN AND SPINAL CORD. A Concise Introduction to the Principles of Clinical Localization in Diseases and Injuries of the Central Nervous System. By Robert Bing, Privat-Docent for Neurology in the University of Basle. Translated by F. S. Arnold, B.A., M.B., B.Ch. (Oxon). Revised by David I. Wolfstein. Cloth. Price, $2.50. Pp. 215, with 70 illustrations. New York: Rebman Company, 1911.

THE MECHANISM OF LIFE. By Dr. Stéphane Leduc, Professor à l'Ecole de Médicine de Nantes. Translated by W. Deane Butcher, Formerly President of the Röntgen Society, and of the Electro-Therapeutical Section of the Royal Society of Medicine. Cloth. Price, $2. Pp. 172, with 64 illustrations. New York: Rebman Company, 1911.

NOSTRUMS AND QUACKERY. Articles on the Nostrum Evil and Quackery from THE JOURNAL of The American Medical Association. Part I, Quackery. Part II, Nostrums. Part III, Miscellaneous. First Edition. Cloth. Price, $1. Pp. 509, with 220 illustrations. Chicago: American Medical Association Press, 1911.

THE BLOOD AND ITS THIRD ANATOMICAL ELEMENT. Application of the microzymian theory of the living organization to the study of the anatomical and chemical constitution of the blood and to that of the anatomical and physiologic causes of the phenomena of its coagulation and of its other spontaneous changes. By A. Béchamp, Formerly Professor in the Medical Faculty of Montpellier (France). Translated from the French by Montague R. Leverson, M.D., of the Baltimore Medical School and M.A. and Ph.D. of the University of Gottingen. Cloth. Price, $1.50. Pp. 440. Philadelphia: Boericke & Tafel, 1911.

PENNSYLVANIA HOSPITAL. Annual Report of the Department for the Insane for the Year Ending April 20, 1911. Presented to the One Hundred and Sixtieth Annual Meeting of the Contributors to the Pennsylvania Hospital. Paper. Pp. 38, with illustrations. Philadelphia, 1911.

TRANSACTIONS OF THE ROYAL ACADEMY OF MEDICINE IN IRELAND. Vol. XXIX. Edited by J. Alfred Scott, M.A., M.D., F.R.C.S.I., General Secretary; Professor of Physiology Royal College of Surgeons in Ireland. Cloth. Pp. 560. Dublin: John Falconer, 53 Upper Sackville Street, 1911.

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New Patents

Patents of Interest to Physicians

995692	Bed-pan cushion. Marie A. L. Barrelle, North Reading, Mass.
995958	Ozonator. Louis Goldberg, Indianapolis, Ind.
995864	Truss. Peter S. Haehn, Youngsville, Pa.
995600	Surgical appliance. Jonas E. Heyser, Philadelphia.
995479	Sanitary cuspidor holder. Peter H. Noonan, Noonan, N. Dak.
995709	Sanitary pocket cuspidor. St. John O'Sullivan, San Diego, Cal.
995817	Artificial rawhide leg. William H. Vanorman, Auburn, N. Y.
995510	Producing transparent camphor in shaped pieces. Otto R. D. Witt, Hamburg, Germany.
994824	Disinfecting apparatus. August H. Davids, Hamburg, Germany.
994918	Sputum cup. John Greenwood, Macksville, Kan.
994922	Composition of matter. Edouard Heckel, Marseilles, France.
995157	Machine for dispensing straws. Marcus and J. A. Korman, Washington, D. C.
995407	Ice bag. Walter S. Leyens, Monroe, La.
994869	Inhaling device. Ignatz Palocz, Budapest, Austria-Hungary.
994957	Magnetic vibrator. Frank V. Smith, Floriston, Cal.
994884	Surgical instrument. William W. Stewart, Columbus, Ga.
994553	Emulsifier. James C. Alexander, Roseburg, Ore.
994437	Preparing camphor. Ossian Aschan, Helsingfors, Russia.
994300	Electric vibrator. Herman I. Blattle and P. Newman, Providence, R. I.
994306	Suspensory drawers. James A. Evans, Fort Worth, Texas.
994584	Cushion crutch. Hobart H. Flynn, Bellevue, Wash.
994270	Massage apparatus. John P. O'Brien and H. Stoddard Philadelphia.
994190	Prostatic syringe. Nicola Pernice, Atlantic City, N. J.
994192	Pasteurizer. Bryan D. Pinkney, Cleveland.
994194	Crutch and cane tip. Philip W. Pratt, Boston.
994660	Breeding microbes. Otto Schmidt, Cologne, Germany.
994482	Clinical thermometer. Ralph F. Schneider, New York
994483	Veterinary surgeon's float. John Sklar, Brooklyn.
994619	Artificial eyelash. Anna Taylor, Ottawa, Ontario, Canada.
994287	Water bag. Edwin R. Thorning, Alameda, Cal.
994294	Ozone generator. Eugene P. Weillard, Los Angeles, Cal.
993945	Medical appliance. John W. Ballard, Indianapolis, Ind.
993365	Disinfecting apparatus. George Harker, Petersham, near Sydney, New South Wales.
993868	Dehydrating nitric-acid and other vapors. Harry Pauling, Gelsenkirchen, Germany.
993308	Edge-rolling device for hot-water bottles. Alexander D. Lamont, Providence, R. I.
992886	Capsule filler. Henry Laval, Evansville, Ind.
992980	Ozone-producing apparatus. Octave Patin, Paris, France.
993124	Breast pump. Charles A. Tatum, New York.
993125	Kessler apparatus for concentrating suphuric acid. Jules Teisset and J. Prat, Paris, France.
993331	Manufacture of formates. Arnold Wiens, Bitterfeld, Germany.
992837	Membrane pump. Friedrich W. Winterhoff, Dusseldorf, Germany.
993011	Manufacturing dextrin. Heinrich Walkan, Budapest, Austria-Hungary.
41434	Syringe or similar article. Peter G. MacGregor, New York.

The Journal of the
American Medical Association
Published under the Auspices of the Board of Trustees

VOL. LVII, NO. 17 CHICAGO, ILLINOIS OCTOBER 21, 1911

THE TREATMENT OF THE ARTHRITIDES *

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It is natural that diseases the most obvious features of which are located in the joints should be grouped together just as diseases of the meninges, lungs, gastro-intestinal tract, etc., are grouped. While we recognize the basis of classification in the other classes and realize that the diseases may have nothing in common, except the localization of some of their phenomena, in the case of the joints we have not yet progressed so far. No class of cases seems to offer greater facilities for study and treatment, and yet in the mind of the average practitioner everything, except the typical cases of rheumatic fever, is thrown into a nebulous class of chronic, rheumatic, rheumatoid or gouty arthritis, the treatment of which is almost hopelessly chaotic. Since Sydenham differentiated acute rheumatic fever from gout, little progress has been made, speaking for the profession at large.

This confusion of ideas with the consequent therapeutic failures is the natural result of certain conditions of which I shall consider the three most important:

1. The unfortunate persistence and extension of the term rheumatism without any definite significance. The permutations and combinations of this term "rheumatism" have contributed so much to misunderstanding, to lack of precision in diagnosis, and consequent lack of definite aim in treatment, to confusion of diseases and confusion of ideas as to the cause, relationship, and management of diseases that it would be far better to drop the term altogether, using the name "rheumatic fever" instead, and ringing no changes on that term, like rheumatoid, gonorrheal rheumatism, rheumatic affections, etc.

2. The flooding of medical literature year after year, under authoritative names, with obsolete, misleading, and unnecessarily confusing statements merely because they are traditional and because the publishers must have filling for their new books. If writers would boldly leave the legendary and condense their writing to what is known, our horizon would soon be much clearer and our book-shelves less congested with crops in which the tares outweigh the corn. One can only vaguely imagine the time that would be saved.

I have long been of the opinion that this evil is largely the result of the energy and enterprise of our medical publishing houses. Where we need one publishing house, we have six or eight. All must keep busy continuously or they will lose money. Therefore, they must coerce the medical profession into writing and buying this unnecessary mass of stuff. If one publisher gets out a book on therapeutics, immediately the others try to duplicate it and we get possibly three or four thousand pages of the printer's art, when two or three hundred pages would give all that is new and worth reading.

3. The paucity of our knowledge as to the etiology of the pathologic conditions observed in the joints. But do the current works on diagnosis, dietetics, and treatment adequately reflect the present state of our knowledge regarding these subjects? Let us consider for a few moments this important question. I assume that the following definite facts and principles may be regarded as established or at least as accepted by investigators as working hypotheses. Exclusive of trophic, hemophilic, traumatic and certain septic cases, the arthritides may be divided into three classes—rheumatic fever, gout, and hypotrophic and hypertrophic arthritis.

1. As to the nature of gout, this disease is due to the abnormal accumulation of uric acid in the system, resulting from its increased production, diminished destruction, or faulty elimination; to the change of the monosodium urate circulating in the organism, from a soluble to a less soluble isomeric form, and its precipitation in the tissues.[1] This uric acid is no longer regarded as a stage in the production of urea, but as a natural end product of purin metabolism, resulting about equally from endogenous and exogenous sources. Consequently, the amount of uric acid to be disposed of may be cut down 50 per cent. by a purin-free diet. I think it is safe to say that nothing in dietetics is so well established as the indication for a purin-free diet in gout. This indication is even more exacting than that for a low carbohydrate diet in diabetes mellitus. For we must try as far as possible to increase the tolerance for carbohydrates in diabetes, but there is no such pressing therapeutic reason for trying to increase the tolerance for the purin bodies in gout.

2. The fact that what is designated as "rheumatic fever" or often as "acute rheumatism," "polyarticular rheumatism," or just "rheumatism" is a general infection, whether we regard the so-called *Streptococcus rheumaticus* of Poynton and Paine as the cause or as an attendant phenomenon like the streptococcus blood-infection in most cases of scarlet fever[2] and many cases of measles[3] and small-pox.[4]

3. The disease or diseases commonly called arthritis deformans and rheumatoid arthritis or hypertrophic and hypotrophic arthritis—whether we regard these two very different pictures as different manifestations of the same, or as two distinct diseases—are not closely related etiologically either to gout or to rheumatic fever.

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* Chairman's address before the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Gudzent: Ztschr. f. physiol. Chem., lv, 38; Therap. d. Gegenw., December, 1910; Med. Klin., 1909, No. 37.

[2] Moser: Brit. Med. Jour., Oct. 4, 1902.

[3] Cornil and Babes: Traité de méd., ii, 84; Garre: Fortschr. d. Med., 1885, p. 165; Councilman: Jour. Med. Res., 1904, p. 1.

[4] Park: Pathogenic Bacteria and Protozoa, 1890, p. 484.

4. The only agent that has been scientifically proved to increase materially the elimination of uric acid without correspondingly increasing its production is radio-activity.

5. Excess of sodium in the tissues predisposes to gouty deposit of sodium urate, and therefore in the so-called gouty diathesis the administration of hydrochloric acid is more logical than the alkaline treatment.

6. Doubtful or atypical cases of gout can be diagnosed only by scientifically testing the capacity of the organism to eliminate uric acid or by the demonstration of the presence of uric acid in the circulating blood, the latter being of value in rare cases only.

7. There is no such thing as an antirheumatic diet and all patients suffering from chronic arthritis, except the gouty, should be as generously nourished as their digestive capacity will permit.

8. Many cases of arthritis are unfavorably influenced by septic foci, as pyorrhea, infected tonsils, antra, frontal sinuses, ethmoid or sphenoid cells, prostate, etc. In certain cases these foci may be ports of entry of the disease germs or sources of the toxins which cause the irritation in the joints.

With the facts just given, let us contrast the following extracts from some of the latest and most popular books of reference, by which many of us shape our daily management of cases. In a reference system published within ten years, an imposing article on dietetics prescribes the same diet for chronic rheumatism, gout and *various skin affections*. In one of the latest and most popular systems published in England during the last three years appears a very good article on gout, but there is *no mention* of purin metabolism in its relation to gout, and no mention of radio-activity; diet tables which are worse than useless are included.

In a "thoroughly revised" edition of a standard work on dietetics published within three years, we read under "gout": "Take moderate quantities of plain nutritious food, avoid excess of meat, and all rich food, and eat only moderate quantities of starches and sugars." This is advice better adapted to almost any other condition than to gout. Then follow detailed directions for all kinds of meats, meat soups, etc., with a caution as to eggs, and an injunction against dried beans or peas, sweet potatoes, beets, ice-cream and cheese, all of which are really harmless in gout, as compared with meat and meat soups, which the author allows.

In another recent system on therapeutics we read under "hydrotherapy" that in the treatment of gout and rheumatism by baths it is simply a question of temperature, duration and pressure (no mention of radio-activity), and further that in all cases of "rheumatic" and "gouty" character the patients should be subjected to hydrotherapy early, medication being practically useless except as a palliative. It is exceedingly common to find these words "rheumatic" and "gouty" linked together, and it adds greatly to the existing confusion.

In the same system we find in an article on "Diet in Gout" a glimmering suggestion as to the relation of purin bodies to uric acid, but this idea is not carried out in the diet tables which follow. In a paragraph on "rheumatic headache" the writer says that this may be (1) "a simple localized affection" or (2) due to "lithemic toxemia, an auto-intoxication from the disturbed gastro-intestinal tract," or (3) to congestion of the tonsils and pharynx. "The local condition may be the result of exposure to cold, sudden checking of the perspiration or the gradual accumulation of the so-called 'rheumatic poison' in the system, from lack of exercise, overfeeding and the use of alcohol." The author then recommends salicylates, colchicum and the iodids — a meaningless jumble of words followed by a shotgun prescription.

In one of the most popular new systems a writer says that there are three varieties of joint affections in typhoid fever, i. e., rheumatic, septic and typhoid proper! and this brilliant classification has been copied year after year by one hurried writer after another. A celebrated English authority contributing to this same system says: "Gout and rheumatism are two diseases which are usually attributed to imperfect tissue metabolism, although there is a tendency, in the case of rheumatism at least, to transfer this disease to the class of infectious diseases." He goes on to sanction the use of alkalies in both cases as favoring the action of oxidases and raising the bactericidal power of the blood. He does not distinguish between the use of salicylates in gout and in rheumatism, saying that they increase the solubility of uric acid. He favors, for reasons which are not given, the use of piperidin, piperazin, etc. Later the same author says: "In cases of disease of the nerve trunks, the treatment resolves itself into the use of electricity and the administration of remedies intended to counteract rheumatic or gouty tendencies, such as alkalies, potassium iodid, salicylates, antipyrin, phenacetin, aspirin, guaiacol, etc."

The one thing which has proved to be of any scientific value in gout is not mentioned in these two large volumes. Such writing shows the same scattering footlessness and rambling lack of scientific foundation as the second-rate proprietary literature with which our offices are flooded; and this stuff is sold to students and practitioners under the authoritative names of men who know better. Should men allow articles which they have never read to be sold as edited by them? Can it be imagined that the alleged editors read these bulky volumes? Is it any wonder that chaos exists in the minds of the profession when our idols are selling us advice which they themselves have never read? Another evil of these pot-boiling "systems" is that they are full of contradictions, no attempt being made by the editors to see that the various authoritative contributions should not flatly contradict one another and leave their readers in the air. Such a collection does not make a system — it is merely a job-lot of *medical articles*.

If a man reads a monograph he chooses a writer in whom he has some confidence or of whom he knows something. When a man buys a system he is influenced by the names of the editors. He has a right to feel that what he reads *in the said system* has the sanction of the editors. In the majority of cases he does not even notice who has written the particular article to which he turns for help in time of need. It is time that those who have deservedly won positions of authority give more careful consideration to that which is going to be sold under their names.

Now, to come back to our classification, I wish to refer particularly to certain points in the treatment of these conditions.

RHEUMATIC FEVER

There is abundant clinical evidence that salicylic acid is *specific* for rheumatic fever and for that disease only. I could cite Kraus of Berlin, Rolleston of England, and many others in support of this opinion. As with other chemical remedies, the treatment should be so managed as to overwhelm the disease as soon as possible and not by small doses long drawn out create a tolerance of the disease-producing organisms for the remedy and at the same time an intolerance of the patient's stomach. Professor Kraus gives 0.5 gm. of salicylic acid hourly day and night until improvement begins, sometimes even to thirty-six hours. The heart and urine should be carefully watched and the treatment should be changed if cardiac depression or albumin and casts are recognized. Following Kraus, I have used some recent synthetics for the past two years whenever the least irritating form of salicylic acid was indicated, and I have been well satisfied with the results.

The combination of alkalies with the salicylic acid treatment of rheumatic fever receives much support from statistics and theoretically at least there are no contra-indications. It is also said to protect the kidneys from the irritating effects of salicylic acid.

The use of vaccines in cases of rheumatic fever as well as in cases of gonorrheal arthritis has been favorably reported on too often to be ignored. Personally, I have had very satisfactory results in both diseases.

In Pittsburgh Drs. Ernest W. Willetts and W. R. S. Denner have cultivated four strains of streptococcus, believed to be identical with that described by Poynton and Paine. Three of these cultures were obtained from blood of patients with acute rheumatic fever and endocarditis. These could not have been terminal infections, as all recovered. One was a culture from the pericardium of a subject who died of chorea with pancarditis. About twenty-five patients have been treated with vaccines made from these cultures, with very satisfactory results. The twenty-five cases include acute and chronic rheumatic fever, chorea, and rheumatic iritis and iridocyclitis. The only patients not benefited were those in whose cases the diagnosis was doubtful.

At all stages of the disease the diet in rheumatic fever should be the most nutritious that the patient can take care of.

CHRONIC HYPOTROPHIC AND HYPERTROPHIC ARTHRITIS

The toxic and septic cases referred to above are most commonly called rheumatoid arthritis (following the English) and arthritis deformans. The diagnosis of the acute manifestations of these two types of disease is sometimes difficult or even impossible in the present state of our knowledge. As to their treatment, possible source of infection should be sought for and removed, though I must say that I have never seen the brilliant results follow the removal of these septic foci that have been reported by others. Still I have several times seen acute exacerbations of the joint affections immediately follow operations on tonsils, antra and appendix. Whether these joints should be exercised or not may sometimes be determined by a study of their radiograms.

The most important point which is not sufficiently recognized is that the patients should be treated along the lines of any chronic infection, that is, by the greatest possible amount of food and outdoor living and sufficient rest to insure the building up of the reserve forces. Many of these patients are very anemic and iron and arsenic are indicated. Care should be taken, if iron is needed, to give enough and to give it in the best form. Shirokauer's recent exhaustive, interesting and instructive article[5] on the use of iron may be referred to here. There is considerable evidence in favor of the use of fibrolysin in certain of these cases to increase the mobility of the joints where the loss of motion is not due to bony changes.[6]

As will be seen later, a certain proportion of these patients have been greatly benefited by treatment with radium emanations.

GOUT

Gout is probably far more common in the United States than is generally supposed. For some reason, not yet explained, the typical cases are relatively infrequent, but I believe that a very large number of atypical cases are overlooked. Although the positive diagnosis of these atypical cases can only be made by testing the purin metabolism or by finding uric acid in the blood (and according to His[7] and Magnus-Levy[8] the former test is sometimes negative in undoubted cases of gout), still a careful consideration of the family history, the patient's previous history and the existing conditions will usually give us sufficient indications for a tentative use of gouty remedies.

The value of colchicum to control the acute symptoms of gout is too well known to require comment.

As regards the influence of alkalies and acids in gouty conditions, there have been a series of very interesting reports which seem to demonstrate that alkalies, particularly sodium,[9] diminish the solubility of uric acid in the blood, and that the administration of hydrochloric acid seems in some way to diminish the alkalinity of the blood, rendering it thereby more disposed to take up the sodium from synovial fluids, etc., where its presence favors gouty deposits. The stronger affinity of hydrochloric acid for sodium prevents the latter from uniting with uric acid.[9] The most interesting articles along this line have been by Falkenstein,[10] Brugsch,[11] van Loghem and Cohn.[9] The practical deduction from the foregoing is the limitation by gouty patients of the ingestion of such vegetables as are high in sodium, and the administration of dilute hydrochloric acid in water or lemonade.

One of the most progressively interesting lines of metabolic work during the past few years has been the development of our knowledge of the therapeutic effects of radium. This subject has received very little notice in America, but for the past two years the German journals have been fairly teeming with it. The reports of forty investigators might be cited from the German medical journals. The British medical press is beginning to notice with enthusiastic approval this German activity.[12] During the past two years there have been seventeen references to radium in British medical literature, eight in the United States, four in Canada, and one in Australia. Most of the notices outside of Germany have been abstracts of or comments on the German work. At the thirty-second Balneologic Congress held in Berlin in March, 1911, one whole session was given to the consideration of the therapeutic effects of radium.[13]

When radio-activity was discovered in the waters of various popular springs, it was at once suspected that this radio-activity might be the essential therapeutic

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5. Shirokauer: Abhandl. a. d. Geb. d. Verd. u. Stoffwechsel Krankh., i, No. 3.

6. Mendel, Felix: Deutsch. med. Wchnschr., 1911, No. 3.

7. His: Berl. klin. Wchnschr., 1906, No. 46; 1907, No. 35; 1908, No. 3; 1910, No. 7; Med. Klin., 1910, No. 16; Deutsch. med. Wchnschr., 1911, No. 5, Vereinsber.

8. Magnus-Levy, A.: Zur Diagnosis der Gicht a. d. Purinstoffwech., Deutsch. med. Wchnschr., 1911, No. 17.

9. Cohn, S.: Deutsch. med. Wchnschr., 1911, No. 10.

10. Falkenstein: Deutsch. med. Wchnschr., 1911, No. 9, Vereinsber.

11. Brugsch: Der Nukleinstoffwechsel u. seine Storungen, Brugsch und Schittenhelm, Jena, G. Fischer, 1911.

12. Brit. Med. Jour., Feb. 4, 1911, p. 267 (editorial).

13. München. med. Wchnschr., 1911, No. 12.

feature of the springs. Roughly speaking, it was noticed that the springs which seemed to have been the most successful in the treatment of gouty conditions were those which showed the highest radio-activity. Artificially prepared radio-active waters were then experimented with and seemed to show the same therapeutic effects. Animal experiments (His,[7] Kionka,[14] Cohn,[9] Fofanoff[15]) were then undertaken with radium, with the result of demonstrating that the action of radium, therapeutically used, is elective, affecting most the embryonic tissue (the ectodermal tissue), the pathologic tissue of tumors, etc.; that it attacks foreign bodies such as uric acid which has been artificially introduced under the skin or in the peritoneal cavity; that it modifies the phenomena of inflammation and stimulates the action of various ferments as the pancreatic, peptic and lactic acid, and the autolytic ferment in the tissues.[16]

From experiments on man, it was found that radium emanations have no action on the glycolytic ferment in diabetic cases, and no action on the elimination of purin bodies in normal cases, but an accelerating effect on the elimination of purin bodies in gouty cases in which the elimination is delayed. It prevents the rapid change of urates circulating in the organism from a more soluble to a less soluble isomeric form and even reverses that change.[1, 15] It increases the elimination of uric acid as well as its destruction into ammonia and carbonic acid.[1] It increases the general metabolism.[17] It increases the chemotaxic and phagocytic properties of the white blood-corpuscles (Fofanoff). At the various cures, the radium emanations find their way into the organism by inhalation, by penetration through the skin, or by the drinking of the radio-active water, and much has been written as to the relative merits of these different methods.[18, 19]

The most recent method of using radium in these cases was proposed and developed by Felix Mendel[20] of Essen. It consists in the intramuscular injection of a radio-active liquid of standardized strength. By this method Mendel has obtained very definite results in [illegible] of gout, also in certain cases of chronic arthritis. [illegible] seems to confirm the statement of Minkowski, in his work on gout, that there is a close relationship between gout and certain cases of chronic atrophic and hypertrophic arthritis.

Of the many clinical reports of the application of radium to cases of arthritis, and to the so-called gouty diathesis, His[7] has given us the largest series of cases, including twenty-eight cases of gout and one hundred cases of chronic arthritis. Of the twenty-eight cases of gout, four were not improved, twenty-four were considerably improved, several without return of symptoms for one year up to the time of writing. Many of these patients had tried severe dietetic and other measures without benefit, and three patients had been on rigid purin-free diet for some time without benefit until the radium treatment was begun. His observed the disappearance of tophi in two cases, and some cases were clinically much improved, although uric acid persisted in the blood, while rare cases showed many tophi with repeated gouty attacks and no uric acid could be demonstrated in the blood. Of the one hundred cases of chronic arthritis, forty-seven were improved, twenty-nine much improved, five almost cured, thirteen showed no change that could be attributed to the treatment, and six cases could not be followed. The best results were in the more acute or earlier cases, especially in young subjects. Gudzent,[1] Brugsch,[11] Strasburger,[21] Mendel,[20] Fürstenberg and Klemperer,[22] and Kemen,[23] have all recorded similar results.

In this brief reference to the effects of radium on certain pathologic conditions, enough has been said to show the desirability of having an official investigation and standardization of the most important American springs in regard to their radio-activity, and I should be very glad to see a recommendation to this end from this Section to the House of Delegates.

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Note.—In addition to the articles previously cited, the following references will be found of interest:

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EXPERIMENTAL INTESTINAL OBSTRUCTION

REPORT OF FURTHER PHYSIOLOGIC, CYTOLOGIC AND CHEMICAL STUDIES *

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ROCHESTER, MINN.

In general, those things which we see in mass are most certain to fix attention. The mucous lining of the dog's small intestine spread over 3 meters of tubular surface is more apt to be thought of in microscopic than in macroscopic terms. Possibly this is why certain of its functions relating to the animal economy may have been overlooked. Yet, in weight and, as some believe, in metabolic importance of secretions, it is the analogue of other great glands of the body. Its weight ratio to the thyroid is about as 7 to 1, and to the pancreas as 3 to 4. Its part in the balancing of metabolism has been overshadowed by its more obvious though measurably less important digestive function. It differs from other glands, not alone in its tesselated length, but in having a less free vascular interchange throughout its long course. What peculiar conditions as to function do these morphologic characteristics impose? If any, are they of significance in the perverted condition following intestinal obstruction?

On the other hand, take a spherical gland like the thyroid, for example; how are its cells activated to like function in like time? What more convenient method than by the interwoven blood-stream with its hormones and varying coefficients of osmotic pressure? How different seems the arrangement of the intestinal mucosa!

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14. Kionka: Die Radioaktivität der Mineralwasser, Deutsch. med. Wchnschr., 1911, No. 17.

15. Fofanoff: Ztschr. f. klin. Med., lxxi, Nos. 3-6

16. Loewenthal and Wohlgemut: Biochem. Ztschr., 1909, p. 476.

17. Silbergleit: Berl. klin. Wchnschr., 1909, No. 26.

18. Strasburger: Behandlung mit Radiumemanation, München. med. Wchnschr., 1911, No. 15; Deutsch. med. Wchnschr., 1911, No. 17.

19. Loewenthal: Deutsch. med. Wchnschr., 1910, No. 44, "Ueber Nessmethoden u. Einheiten in der Biolog. Radiumforschung.

20. Mendel, Felix: Die Emanationstherapie mittels intramuskularer Radiogen Injectionen, Deutsch. med. Wchnschr., 1911, No. 5, Vereinsber.

21. Strasburger: Deutsch. med. Wchnsch., 1911, No. 12; München. med. Wchnschr., 1911, No. 15.

22. Fürstenberg and Klemperer: Deutsch. med. Wchnschr., 1911, No. 5, Vereinsber.

23. Kemen: Gicht u. Radiumtherapie, Petersb. med. Wchnschr., 1911, No. 13.

* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

* From the Laboratory of Surgical Chemistry and Physiology, Rochester, Minn. Continuation of studies begun at Columbia University, New York, and reported before the Johns Hopkins Medical Society, March, 1909. (Am. Jour. Med. Sc., May, 1909.)

§ J. W. Draper Maury has taken the name John William Draper

From these epithelial cells we know that the blood carries certain bodies which stimulate certain secretions.[1] This is a recently acquired habit and a highly specialized function, though older and less specialized than either sympathetic or central nerve control. Blood-stream messengers were doubtless used by our acardiac ancestors, for Draper[2] demonstrated nearly seventy years ago that hearts were a secondary contrivance and quite unnecessary to the maintenance of circulation. A more remote ancestral method of interglandular communication may have been the bathing of one pavement cell by the secretion of its next fellow. This method of stimulation in vertebrates is universally recognized in the activation of trypsinogen by enterokinase. Do not certain other substances follow the path of habit and of least resistance through the intestinal lumen? Surely, the experimental studies of Roger,[3] Matthews[4] and Pilcher[5] as well as our own, suggest this view. Furthermore, what other significance is to be attached to the terminal arrangement of the circulation in the small intestine? Free and lavish as is this blood-stream, its avowed architectural plan seems throughout the vertebrates merely for the purpose of hastening great volumes of blood to and from the intestine at the digestion period. Direct vascular interglandular communication appears minimized—definite lateral communication must have been provided had it been found functionally advantageous or necessary.

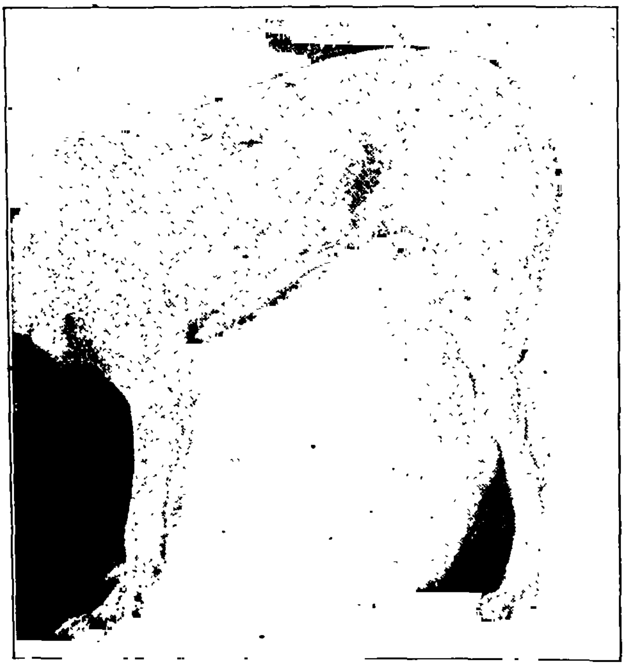
Fig. 1.—Animal in late hours of untreated duodenal obstruction. Posture is due to tonicity of hind leg muscles. Often walk on hind toes. Tendon reflex exaggerated.

Embryologically, as Schulz[6] says, the analogues of the digestive tracts of the higher forms are first met with in mollusca. This relationship must not, however, be thought of as too close, because, among other things, so important an element as pepsin, for example, has not yet been positively identified in the invertebrates. It is significant, however, and germane to a study of obstruction that the great mid-gut gland of mollusks, although it contains glycocoll and is commonly looked on as liver, partakes at least as much of the nature of the vertebrate pancreas as of liver. Necessarily, being the chief organ both of assimilation and of digestion, it also functionally resembles our own highly specialized intestine. Originally there existed a free channel of communication between the cells of this gut-hepato-pancreas—a sort of general cellular washway. In vertebrates, however, a wide anatomic separation of the gland units (the liver and pancreas) with resulting ducts, has restricted the primitive method of cell-bathing to the intestine alone.

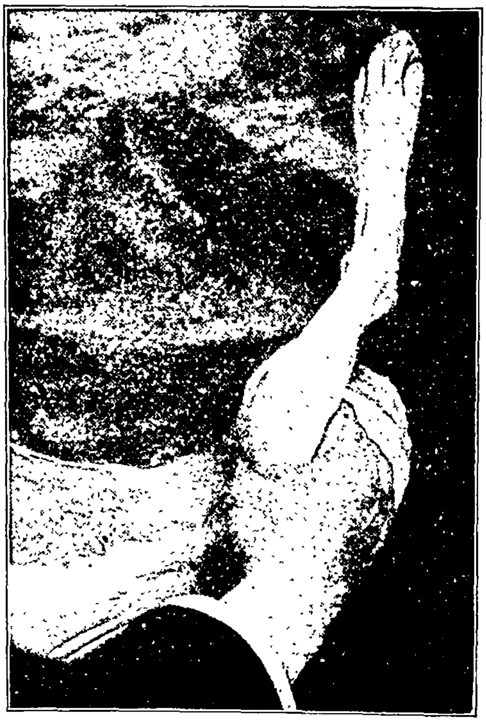
Fig. 2.—Relaxed hind leg of duodenally obstructed dog. Note that toes are together. Hand grasping thigh, gently.

These abstract considerations are valuable because of their vital importance in every-day work. If we would seek for the cause and relief of human ailments, recourse must be had for intelligent hypotheses, not in purposeless leaps in the dark, but in the friendliest possible adaption of both our phylogenetic and ontogenetic evolution to experimental thought.

The belief that death in duodenal obstruction is caused by the actual interruption of enteric exchange thus seemed logical. What had been put together through untold ages of striving by millions of ancestral species could not without quick fatality be rudely set apart. Walter Cannon, in a personal note, justly complains that certain of us have too long looked on the alimentary canal as a highly ingenious contrivance of rubber tubes to be spliced and lopped at will. In the same connection, Pavlov[7] says, "The digestive process is a synthetic construction, all parts of the organism working together." The human animal in altruism and in intelligence surpasses all others. Physically, however, even among the invertebrates, as Schaler[8] says, man has many superiors. His glandular functions, as shown by Starling,[9] are as subject to the first-formed primitive influences as are those of any other vertebrate. How close is the relationship between biology and executive medicine! Finney's[10] conclusions as to the fundamental importance to surgery of a biochemical rather than a purely mechanical interpretation of the problems of gastro-intestinal perversions, are certainly pointed and timely.

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[1] Bayliss and Starling: Chemical Regulation of the Secretory Process, Proc. Roy. Soc., 1904, lxxiii, 310..

[2] Draper, J. W.: The Chemistry of Plants, 1845, p. 37.

[3] Roger, H.: L'occlusion intestinale, Presse méd., Jan. 4, 1911, p. 1.

[4] Matthews, S. A.: One of the Functions of the Duodenum. THE JOURNAL A. M. A., July 23, 1910, p. 293.

[5] Pilcher, J. T.: Cause and Relief of Pain in Duodenal Ulcer. Am. Jour. Med. Sc., 1911, cxli, 687.

[6] Schulz, F. N.: Handbuch der Biochemie (Oppenheim), iii, Part I, 228.

[7] Pavlov: Work of the Digestive Glands, p. 167.

It was not then by fortuitous guess that we began to feed the mucosa of the jejunum and ileum of one dog into the stomach and short intestinal segment of a duodenally obstructed dog. A reestablishment of the hypothetic simple signals of our primitive ancestors by putting together what the obstruction had taken apart should theoretically restore physiologic equilibrium and thus delay death. In a measurable degree this proved true.

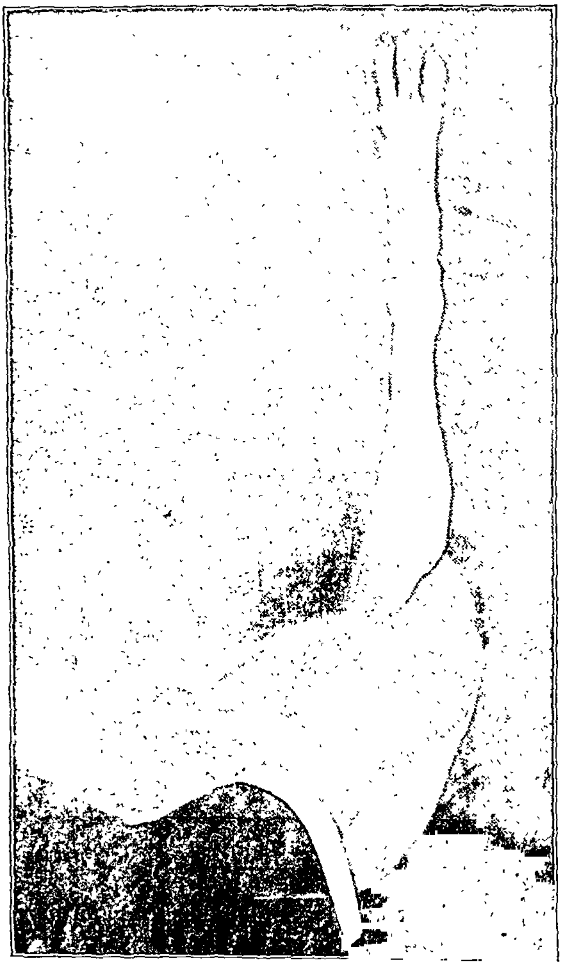

Fig. 3.—Spasm of leg shown in Figure 2, caused by pressure of fingers. This can be produced in normal dogs, but not so constantly. Toes separated.

Is there anything new under the sun? That the ancient Greeks attached a high sacrificial value to the entrails is humorously suggested by the following lines from Homer:[11]

> "They taste the entrails* and the altars load
> With smoking thighs."

This method of epithelial medication has in part answered the question suggested by earlier studies, "Does the intestine detoxicate by the addition of an anti-enzyme or does it save life by offering a larger field for absorption?" It is also germane to Bolognesi's[12] thoughtful studies on the chemistry of the blood in intestinal obstruction.

As in the case of delayed chloroform poisoning, the muscular twitchings spoken of by Howland[13] and Whipple[14] were good clinical evidence of the degree of obstructive toxemia.

The posture which was due to the tonic spasms of the hind extremity muscles was frequently characteristic. So also was the carriage of the hind leg in walking. It is not unlike the swing of paraplegia in man. If death be due to glandular inactivation, the various coefficients of the pulse should afford reliable measures of the intoxication, for Rogers,[15] quoting Loeb, thinks that the heart-beat itself may be due to enzyme action. Adult dogs seem to have as unstable thermo-dynamics as young humans.

TABLE 1.—SERIES A; DOGS FED MUCOSA *

NO. OF DOG	AVERAGE PULSE RATE	HRS. LIVED AFTER OBSTRUCTION	REMARKS
6	---	120	First dog fed Mucosa; only moderately sick.
8	---	127	Moderately sick.
20	148	103	Animal was a pup seemed resistant to toxemia, rapid emaciation.
40	146	174	Operated on at end of 168 hrs. for gastro-enterostomy. death in 6 hrs.
45	114	102	Operated on at end of 96 hrs. for gastro-enterostomy. death in 6 hrs.
49	160	120	Pulse rose from normal to 180 in 15 hrs. Animal very toxic.
63	144	127	Peculiar condition: abduction of outer toe clonic spasms, rapid emaciation.
72	123	163	Operated on at end of 6th day for gastro-enterostomy. died in 19 hrs.
75	140	180	Mucosa stopped at end of nine days Spontaneous intestinal fistula.
78	109	150	Very marked muscular tremors.
94	140	102	Condition very good throughout.
99	138	118	Condition good up to last 24 hrs. when marked tremors began.
112	128	57	Very marked tremors. condition good.
116	151	102	No tremors but marked rigidity of hind-quarters.
117	146	102	Condition good but animal extremely weak.
13	1787	-15 | 1847	

137=Av.P.—123=Av.length-of-Life-when-fed-Mucosa:

* In several animals a late gastro-enterostomy was made in hope of saving life. Futile because too much toxemic damage had already been done.

Hence, the rectal temperature has not appeared to be a reliable guide. It was usually but little changed by uncomplicated duodenal obstruction. Length of life, measured in hours after obstruction, obviously afforded the surest index of the efficacy of any form of treatment.

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[8] Schaler, N. S.: The Individual, p. 126.

[9] Bayliss and Starling: Uniformity of Pancreatic Mechanism of Vertebrata, Jour. Physiol., March 16, 1903, p. 174.

[10] Finney, J. M. T.: Some Problems in Gastro-Intestinal Surgery, The Journal A. M. A., *June 3, 1911, p. 1625.*

[11] Homer: Odyssey, Book iii, line 12.

* Presumably the liver and heart.

[12] Bolognesi, Giuseppe: Recherches physico-chimiques du sang, dans l'occlusion intest. exp., Jour. de physiol. et path. gen., March 15, 1911, xiii, No. 2.

[13] Howland and Richards: Jour. Exp. Med., 1909, ii, 344.

[14] Whipple, G. H.: Chloroform Poisoning, Liver Necrosis and Repair, Johns Hopkins Hosp. Bull., xx, No. 222.

[15] Rogers, C. G.: Am. Jour. Physiol., xxviii, No. 3.

METHODS

Two series of fifteen dogs each have been prepared as follows: Under profound ether anesthesia in each case, the duodenum *has been sectioned and infolded just aboral to the major* pancreatic duct. All animals were treated exactly alike as regards dressings, postoperative care and free access to water. In Series A, however, each dog was given by mouth four times daily, about 30 c.c. of a watery suspension of mucous membrane scraped from the jejunum and ileum of healthy dogs which had been sacrificed by chloroform for the purpose. Approximately 400 c.c. of water were added to the entire scrapings and it was found that this suspension would keep on ice for about five days. No effort at standardization was made, but it was early observed that immediate treatment seemed more important than size of dose or later treatment.

One is tempted to speculate on the fate of numerous colon bacilli thus transplanted to unusual regions from the terminal ileum. Surgical introduction of such bacteria by implantation of a segment of the bacillus-bearing ileum into the duodenum had no visible clinical effect on two healthy dogs.

TABLE 2.—SERIES B; DOGS NOT FED MUCOSA *

NO. of DOG	AVERAGE PULSE RATE	HRS. LIVED AFTER OBSTRUCTION	REMARKS
1		60	Characteristic attitude of obstructed dog
2		72	
18	168	54	Characteristic attitude.
55	171	54	Tremors, high pulse, rigidity very marked.
57	175	126	Pulse high and rapid, animal very resistant to toxemia.
58	162	90	Marked rigidity and rapid pulse.
70	146	103	Marked tremors, spasticity violent reaction 14 hrs. after operation.
86	175	104	Very high irregular pulse, marked tremors.
87	161	78	High pulse condition excellent. walked up three stairs 12 hrs. before sudden death.
88		103	Marked tremors of whole body. Too vicious to take pulse.
89	194	54	Extremely high pulse but no rigidity or tremors.
90	194	30	Very high pulse but did not appear sick.
91	161	140	A young pup, very resistant to toxemia.
92	179	165	Marked tremors but condition otherwise good.
93	152	78	Very powerful dog shows relation between vital and physical strength.

12 2038-15 1311
170-Av.P. 87-hrs-Av.-length-of-life.

* The largest, strongest dogs were often the first to die. Physical strength no safeguard against obstructive autotoxemia.

In this connection the brilliant work of Moraschi, Ruiz and Natale[16] of Buenos Ayres should not be forgotten. They have shown conclusively, by injection into rabbits, that the intestinal contents from the obstructed segment became less toxic directly as the obstruction neared the rectum. While the obstructed duodenal contents were the most toxic, the feces of the sigmoid were definitely the least toxic of all. This intoxication these authors would attribute to a symbiotic action of the bacteria.

This is a totally new conception, for prevailing opinion until recently has been that these bacteria themselves were the source of the fatal toxemia. The impression that we have gained, however, is that the bacteria were facultative parasites and that at least the major part of detoxication was accomplished by the epithelial cells themselves. Orojejunal regions which bacterially are almost sterile have well defined power to limit the toxemia of obstruction.[17] It is not easy to see why this primitive autogenous function, on the existence of which the interpretation of our provisional results is based, should have been relinquished by the cells most directly concerned, to be turned over to parasitic cells of alien species. It presupposes a true obligate symbiosis which is confessedly rare in nature.

There is another point; if these bacteria played so very important a part in intestinal metabolism, the giving of large doses of calomel, which Baumann[18] proved to have the power of suspending bacterial action, should be followed by quite remarkable changes in the host. Ought not the healthy to fall sick and the obstructed to recover promptly? Still another point tending to refute the bacterial origin of the toxemia has

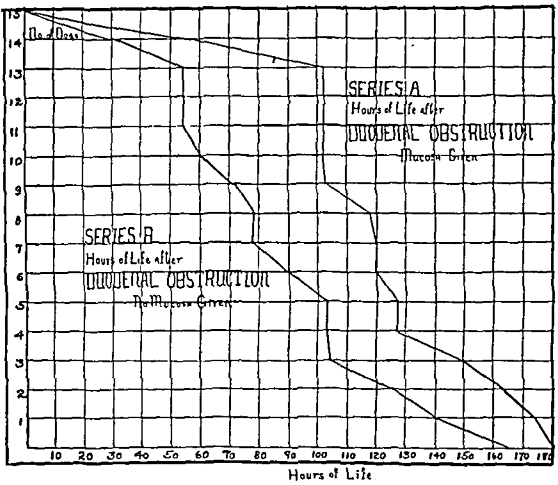

Fig. 4.—Graphic chart showing that the effect of epithelial medication is noticeable during the first 100 hours only of obstruction. *This fact and the parallelism of the subsequent charts strongly suggest a biologic reaction.* Average difference in length of life between treated and untreated animals was thirty-six hours.

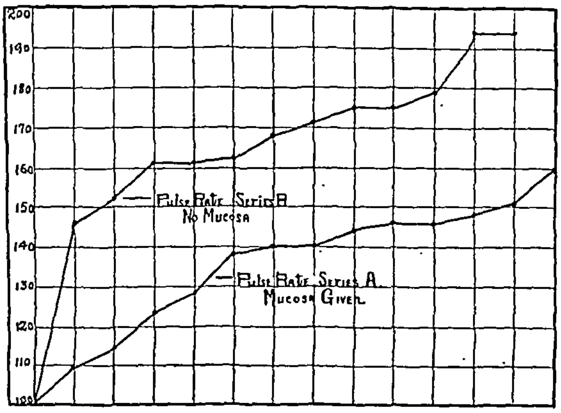

Fig. 5.—Graphic chart showing average pulse-rates in treated and untreated animals from operation until death. Note parallelism after initial separation of charts. Average lowering in pulse, 33 beats. Onset of high pulse usually within eighteen hours of operation. Too early for bacterial toxemia.

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[16] Moraschi, Ruiz, Natale: El proceso de la digestion y la toxicidad del contenido intestinal (Occlusiones experimentales hipotoxia fecal relativa), Sem. méd., Buenos Ayres, 1909, p. 1603.

[17] Draper, Maury: Intestinal Obstruction. An Outline for Treatment Based on Cause of Death, Am. Jour. Med. Sc., May, 1909, cxxxvii, 725.

[18] Baumann: Ztschr. f. physiol. Chemie, 1886, x, 123.

been made by Frank Wood, who says (personal communication): "We not infrequently see cases of fecal vomiting, in which, as soon as the obstruction is relieved, the patients recover promptly."

However this may be, those interested in the subject certainly owe a debt of gratitude to Roger and his pupils, who were the first to call our attention to the autogenous origin of obstructive toxemia. Whatever helpful parts the bacteria may or may not play, it is a healthful sign of progress that they have been relegated to minor positions in the consideration of death in duodenal obstruction. Emancipation is welcome from the hereditary text-book dogmas of "nervous influences," "shock," "stagnation of contents" and "passage of bacteria and bacterial products through the stretched intestine." These interesting symptoms should be set aside in favor of the underlying modern conception of glandular interaction, interference with which is probably the fundamental cause of obstructive death.

Jejunal and ileac mucosa, if capable of prolonging life and lowering the heart-beat in duodenally obstructed dogs, might reasonably be expected to modify any cellular tissue changes produced by the toxemia. One might expect such changes to be seen in the liver. So widely differing, however, is the morphology of the liver-cell under what appear to be normal conditions that we have as yet been unable to determine, with any degree of certainty, that duodenal obstruction caused any visible changes in the liver-cells. E. T. Bell[19] of the University of Minnesota has shown that the amount of fat present in a liver varied widely with the amount and quality of feeding.

How reliable an index of function, therefore, the presence or absence of morphologic changes in an organ might be after duodenal obstruction remains to be seen. Schlutz[20] has recently worked on a newly devised chemical method which Tollens[21] hopes may ultimately add to our knowledge of liver function. Dr. Schlutz suggested its possible usefulness in these studies, and I have the privilege of reporting his provisional findings.† The method deals with the quantitative determination of glycuronic acid. This substance combines with certain poisons, notably camphor, and this pairing or detoxicating is thought to take place entirely in the liver. By giving camphor hypodermatically, therefore, it seemed possible to find some true index of the functional condition of the liver before and after duodenal obstruction.

TABLE 3.—EXPERIMENT 1. DOG 30. EXCRETION OF NITROGEN *

Date of Exp.	Length, Hours	Vol. of Urine c.c.	Total N gm.	Urea N gm.	Ammonia N gm.	Urea and NH₃ N gm.	Creatinin N gm.	Creatin N gm.	Creatinin and Creatin N gm.	Undeter. N gm.	Per Cent. of Total Nitrogen						
											Urea	Ammonia	Urea and NH₃	Creatinin	Creatin	Creatinin and Creatin	Undeter. N
5/5-6	23	520	13.60	10.4160	0.3998	10.8158	0.1830	0.2270	0.410	2.3472	76.58	2.20	78.78	1.346	1.670	3.014	18.205
5/6-7 †	25	460	15.40	11.060	0.580	11.640	0.210	0.280	0.490	3.270	71.81	3.76	75.57	1.364	1.819	3.182	21.248
5/7-8	25	350	14.0	12.46	0.414	12.874	0.210	0.288	0.498	0.628	88.99	2.95	91.94	1.50	2.057	3.557	4.503
5/8-9	18	282	12.40	11.08	0.340	11.420	0.137	0.333	0.470	0.5098	89.35	2.74	92.09	1.103	2.685	3.789	4.1214
5/9-10‡	25	246	9.30	7.21	0.168	7.3780	0.1954	0.1298	0.3252	1.5968	77.52	1.8064	79.33	2.101	1.395	3.447	17.177
5/10-12§	47	325	12.20	9.10	0.680	9.780	0.2867	0.3318	0.6185	1.8015	74.59	5.5137	80.16	2.35	2.72	5.07	14.76

* Weight of this dog at beginning, 17 kg.; at end, ? † Five gm. camphor subcutaneously. ‡ Obstruction. § Cage—contaminated specimen. Vomitus mixed with blood and possibly urine or fecal matter. Total quantity, inc. wash water, 885 c.c.; total N, 6.797 gm.

TABLE 4.—GLYCURONIC ACID AND CAMPHOR-GLYCURONIC EXCRETION

Normal period = 1 c.c. of urine = 0.00081 gm. glycuronic acid.

Date of Exper.	Length of Period, Hours	Volume of Urine c.c.	Nor. Amount of Glyc. Acid gm.	Amount Act. Passed as Comb. Camph. Glyc. Acid gm.	Increase Over Nor. gm.	Per Cent. of Theoretical Total Excreted in 48-Hour Period
5/5-6	23	520	0.4222	......	......	
5/6-7 *	25	460	0.3726	3.2195	2.8469	5 gm. camphor = 11.20 gm. combined camphor-glycuronic acid.
5/7-8	25	350	0.2835	2.1144	1.8309	Preceding obstruction: Total excretion for a period of 48 hours after giving camphor = 4.6778 gm. or 41.76 per cent. of a theoretical total of 11.20 gm. camph. glycuronic acid.
5/8-9	18	282	0.2284	0.6144	0.3860	
Operation	..	...	0.8845	5.9483	5.0638	
5/9-10	25	246	0.1992	0.5904	0.3912	Following obstruction: Total excretion for a period of 47 hours after giving 5⅓ gm. camphor =3.2498 or 27.19 per cent. of a theoretical total of 11.95 gm. camph. glyc. acid.
5/10-12†	47	325	0.2362	3.4860	3.2498	
....	..	...	0.4354	4.0764	3.6410	

* 5 gm. camphor subcutaneously. † 5⅓ gm. camphor at beginning of period.

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[19] Bell, E. T.: Anat. Rec., May, 1910, iv. Also article soon to be published in Internat. Monatschr.

[20] Schlutz, F. W.: Die Fraction der Aminosauren im Säuglingsharn, Jahrb. f. Kinderh., lxxii, 97, 1910; Das Verhalten des Kamphers im Organismus des Säuglings, Ztschr. f. Kinderh., i, No. 2, p. 197.

[21] Tollens: Ueber Glucoronsaure u. Aetherschwefelsauren im Menschlichen Harn., Ztschr. f. physiol. Chemie, 1910, lxvii.

† From the Laboratory of Physiology, University of Minnesota.

In the single study of Schlutz completed to date the tables showed, first, that the nitrogen metabolism during camphor administration was well within the normal, both before and after duodenal obstruction; second, that the glycuronic camphor pairing decreased from 41 to 27 before and after obstruction. This may indicate that the liver function had been impaired.

SUMMARY OF RESULTS

1. Epithelial cells of jejunum and ileum given by mouth to duodenally obstructed dogs prolonged life in a series of fifteen animals by about thirty-six hours over a similar series to which they were not given.
2. The average pulse-rate of the treated dogs was thirty-three beats lower than that of the untreated.
3. The belief that we were dealing with a cytologic product was strengthened by the trend of the charts. These showed that beneficial action occurred early, just as in the case of any successful treatment by antibodies.
4. The chemical determinations in one animal showed a normal nitrogen metabolism after duodenal obstruction and suggested a decreased functional power of the liver in terms of glycuronic camphor.
5. This series is far too small to justify any positive conclusions. Its value is simply that of a suggestive working basis.

THE USE OF CALCIUM CARBONATE IN SOLID MEDIA FOR THE DIFFERENTIATION OF SUGAR-FERMENTING BACTERIA

ESPECIALLY OF THE COLON-TYPHOID GROUP *

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NEW YORK

Media containing lactose with litmus as an indicator for acidity have been extensively used for growing the colon bacillus and differentiating it from closely allied organisms. This type of medium is well exemplified in Wurtz's lactose litmus-agar which consists of a 1 per cent. lactose-agar colored with litmus. These media have several defects, chiefly due to the rapid diffusion of the acid, causing a general reddening of the adjacent medium. This necessitates having plates with few colonies and examining and counting while the colonies are still small. Also gas formation often occurs, ruining the plate.

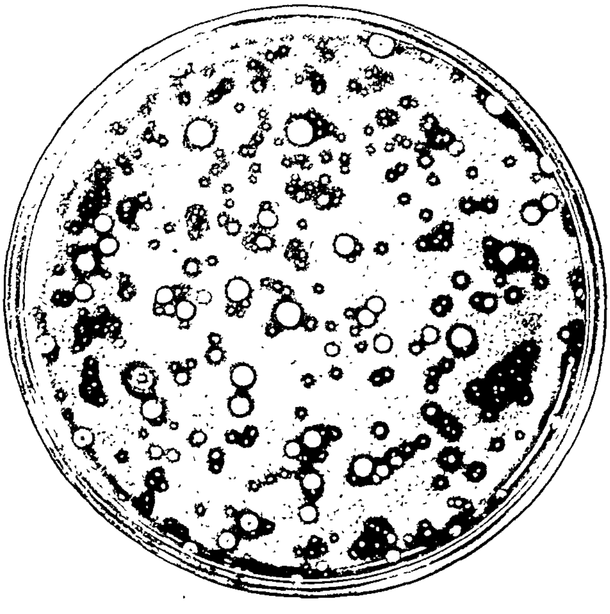

Fig. 1.—Culture of the colon bacillus, showing the clear area about each colony, where the chalk has been dissolved by the acid.

To overcome these disadvantages, media consisting of stiffer agar have been devised, on which surface smears are made. This is the type of the Conradi-Drigalski medium, which consists of a special nutrient 3 per cent. agar, to which crystal violet is added as an inhibitor for less resistant organisms than the typhoid bacillus.

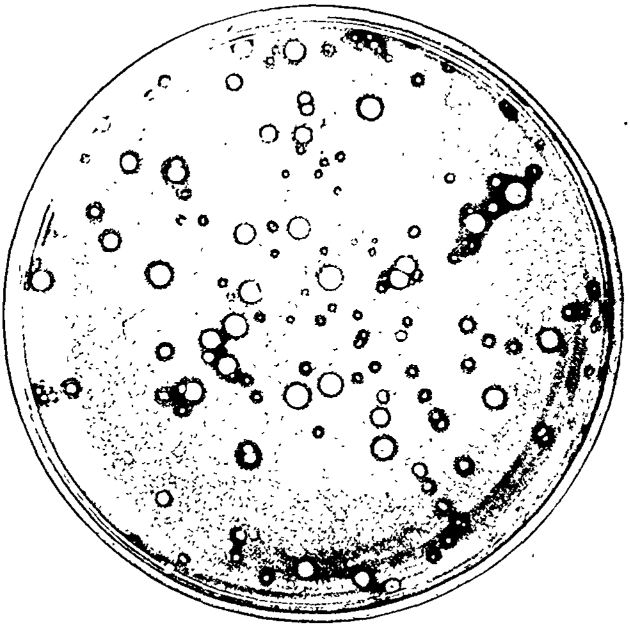

Fig. 2.—Mixed culture of the colon and typhoid bacilli. About each colon colony there is a clear, translucent zone, appearing as a black zone in photograph on account of plate being placed against a black background. This transparent zone is absent about the typhoid colonies.

With the intention of limiting the diffusion of the acid formed by the splitting of the lactose, I began to experiment by adding various alkalies to the medium. But such alkalies as NaOH and $NaCO_3$ when added in sufficient quantities had a deleterious effect on many of the organisms, and besides colored the medium an intense blue, which completely masked the production of alkalies, which production is of value in identifying typhoid colonies and those of the organisms of putrefaction.

A neutral agar was desired in which the acid produced by the fermentation of the sugar would be neutralized in order to prevent its diffusion. This result can best be obtained by using an insoluble alkali or alkaline salt.

The simplest and most efficient of the insoluble alkalies seems to be calcium carbonate — precipitated chalk. Being an impalpable powder, it is readily distributed throughout the medium, it exerts no inhibition on the organisms, is readily obtainable everywhere, and is inexpensive. Furthermore, the chalk in combining with the acid is dissolved; hence acid-forming colonies are surrounded by a clear zone. This clearing of the medium is a valuable aid in recognizing acid-forming colonies.

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* From the Department of Bacteriology, College of Physicians and Surgeons, Columbia University.

The medium consists of:

	Gm. or c.c.
Agar	15
Liebig's extract	5
Salt	5
Peptone	10
Lactose	20
Calcium carbonate	4
Litmus solution	100
Water	1,000

The agar, Liebig's extract, salt, and peptone are dissolved in one liter of water either in the autoclave or over the free flame. This is then cleared with the whites of two eggs and filtered through cotton. No titration or adjustment of reaction is necessary. The medium should then be flasked, 250 c.c. to a flask preferably of 500 c.c. size. One gm. of powdered calcium carbonate is then added to each flask, and the whole sterilized in the autoclave. Finally to each flask is added 25 c.c. of Kahlbaum's aqueous litmus—according to Kubel and Thieman—(or an equal quantity of a solution of azolithmine); and 5 gm. of chemically pure lactose. Tube by pouring direct from flasks to tubes, keeping contents well mixed. Sterilize in an Arnold sterilizer for fifteen minutes on three consecutive days.

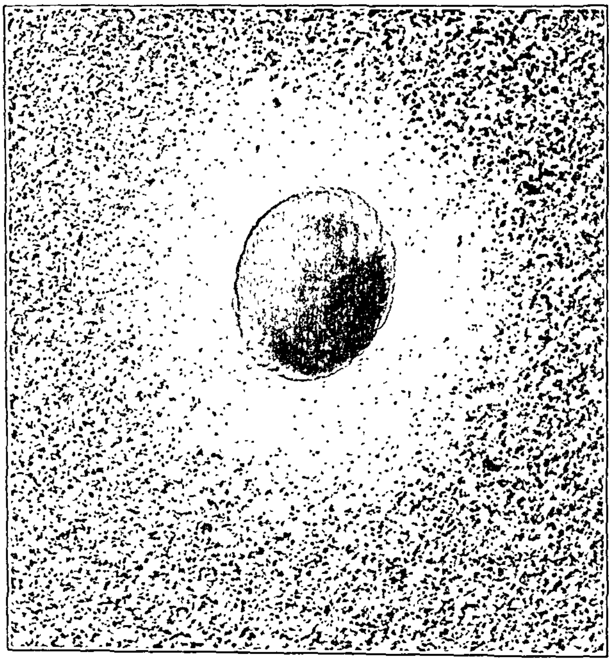

Fig. 3.—Deep colon colony, showing clear area.

In using this medium either surface smears may be made on plates or the tubes inoculated and poured. For most uses the poured plates give best results. To obtain a uniform distribution of the chalk throughout the medium, the tubes should be rolled rapidly to and fro between the palms of one's hands, and then by alternately depressing and raising the plugged end of the tube combining this with a rotary motion. This mixing should be done as soon as tubes are melted and while still hot. They are then cooled to 42 C. They may then be inoculated and poured.

Inoculated plates may be incubated fourteen to forty-eight hours at 37 C., or from two to five days at room temperature. Usually eighteen to twenty-four hours at 37 C. gives best results.

Acid production in this medium is shown by:

1. Dissolving of the chalk about the colony due to its combination with the organic acids.
2. Reddening of the colony due to the litmus.
3. Microscopically by the deposition of crystals of the calcium salts of the organic acids.

Differentiation between colon and typhoid colonies on this medium is readily made.

COLON COLONIES

1. *Surface.*—These are large disk-shaped colonies, slightly depressed in the media. There is a variable amount of clearing about them due to the solution of the chalk. The extent of clearing depends on the length of time the plates are incubated. Microscopically on focusing up and down, the chalk is seen to be dissolved just below the colony and about its periphery. Crystals of the calcium organic acid salts are usually seen.

2. *Deep.*—These are rounded or spindle-shaped, showing a very distinct clearing of the chalk for a considerable area about the colony.

TYPHOID COLONIES

1. *Surface.*—These are large white or bluish-tinged colonies showing no clearing of the chalk. Microscopically the amorphous granules of the chalk are seen to be both within and about the colony. No crystals of the organic salts are present.

2. *Deep.*—These are distinct colonies lying embedded in the chalk without solution of the chalk occurring.

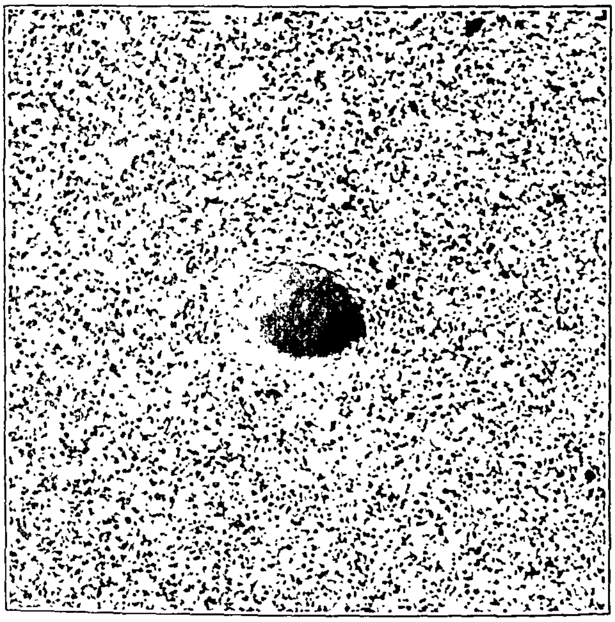

Fig. 4.—Deep typhoid colony.

For isolating the typhoid bacillus from feces, sewage, or contaminated water, 1 per cent. lactose and 1 per cent. saccharose may with advantage be substituted for the 2 per cent. lactose. Plates should be incubated fourteen to twenty hours at 37 C. Suspected typhoid colonies should be fished and inoculated into Hiss tube media or other suitable media for identification. I have on several tests isolated typhoid bacilli direct from the feces without enrichment.

The advantages of this medium are:

1. Neutralization of the acid as it is produced.

A. Crowded or well-diluted plates may be used with equal advantage.

B. The period of incubation is not limited.

C. Gas formation is greatly lessened, probably owing to the neutralization of the acid as soon as it is produced, thereby preventing it from being further broken down.

D. Acid formation is more clearly shown and its extent may be gauged.

2. Simplicity of the medium:

A. Stock meat extract agar may be used by simply adding chalk, lactose, and litmus.

B. The medium is neutral in reaction without titration or adjustment. The acidity of the meat extract is neutralized by the chalk, giving a neutral agar on which slight alkalinity or acidity is readily shown.

This type of medium may be used in growing and identifying any organism in which the fermentation of any sugar is the basis of its differentiation. For some organisms such as the pneumococcus and streptococcus, meat infusion agar may be substituted for the meat extract agar. Any of the sugars may be used instead of the lactose. The percentage of sugar may be varied from 1 to 5 per cent.

In conclusion I desire to acknowledge my indebtedness to Prof. P. H. Hiss for many valuable suggestions, and to Mr. Bosse for the accompanying photographs.

409 Broadway.

PINNING FRACTURES THROUGH A CANNULA WITH THE AID OF THE FLUOROSCOPIC SCREEN *

ROBERT T. MORRIS, M.D.
Professor of Surgery, New York Post-Graduate Medical School
NEW YORK

Last year I had occasion to remove a pin from a bronchus with a pair of alligator forceps inserted through the trachea. The fluoroscopic screen was employed for watching the movement of the forceps within the chest cavity. An account of this procedure was published in *Surgery, Gynecology and Obstetrics,* May, 1910.

It occurred to me at the time that if pins could be removed so easily with the aid of the fluoroscopic screen a reversal of the process might allow pins to be put in with facility in certain fractured bones which are not readily kept in place with splints.

At the present time I am engaged in experimental work along this line of observation, and publish a preliminary note on the subject quite as much for the purpose of pointing out difficulties in some cases, as in showing how this resource facilitates our work in other cases. We are now enabled to avoid open operation in certain cases in which open operation is otherwise indicated, and we can hold the ends of fractured bones in position in some annoying cases in which open operation would not be quite justifiable.

The work can be done in large part with such instruments as most surgeons have at hand, but it has seemed best to make up a case of instruments particularly adapted for the new work. A special table also was constructed with various slides, so that any part of the anesthetized patient could be conveniently exposed to the *x*-ray in front of the fluoroscopic screen. Dr. L. Kast made the first helpful suggestions in ways for using the fluoroscope for this work, and Dr. Howard T. Lewis, under the direction of Dr. F. H. Albee, has assisted in much of my work and in planning conveniences.

In fractures of the smaller bones the fluoroscopic part of an ordinary fluoroscope can be detached and used to better advantage than the large screen.

The instruments consist of trocars and cannulas, which are inserted obliquely to points of fractures; bone-drills for cutting channels for dowel-pins; tampers for pressing dowel-pins into place; an alligator forceps for removing badly placed dowel-pins; and segments of silver or German-silver wire of different diameters, to be cut up into requisite lengths with the file for dowel-pins.

When a dowel-pin is to be inserted the patient is anesthetized. Up to the present time I have depended on general anesthesia, but shall use local anesthesia in selected cases after a little more experience.

The steps in order are as follows:

1. A proper area of skin is sterilized.
2. The fluoroscopic screen is held in a convenient position for observing the site of fracture.
3. One or more assistants make traction and manipulate fragments until they are seen to be in position.

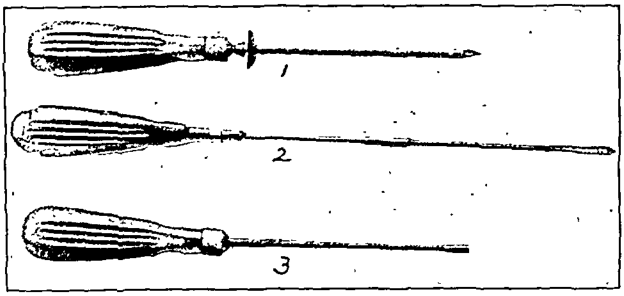

Fig. 1.—Three instruments of the special set (Kny-Scheerer Company, New York): (1) cannula and trocar with short point; (2) drill to fit snugly into the cannula and to project beyond its lumen; (3) tamper for pressing dowel-pins into place.

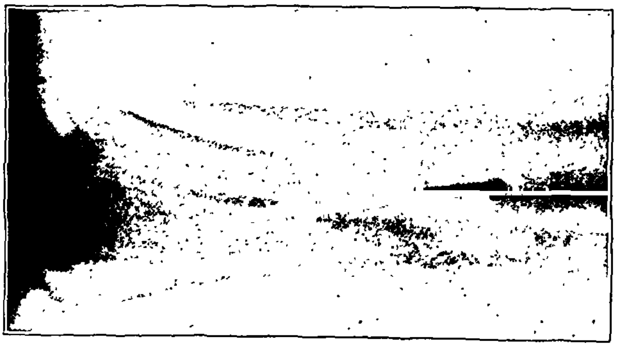

Fig. 2.—An accident to be avoided. Fragments were held accurately in position and pin appeared to be entered properly. This radiograph, taken next day, showed fragments out of position.

4. A trocar and cannula are inserted through the skin, and carried obliquely to a chosen point near the site of fracture.
5. The trocar is removed, leaving the cannula in position.
6. A drill is passed through the cannula, and transfixes both fragments which are to be pinned.
7. The drill is removed, and a dowel-pin of suitable length dropped into the cannula.
8. The pin is pressed into place in the drill holes with the aid of a tamper.
9. The cannula is removed, and a trifling dressing applied over the skin puncture.
10. Customary splints are applied to relieve stress on the dowel-pin.

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

Now that surgery is leaving the interior organs and getting back to bones again, this simplification of method for fastening fragments together promises to become a resource of considerable value, in well-selected cases. The entire procedure of introducing the trocar and the cannula, drilling fragments, and putting in the pin, is observed through the fluoroscopic screen as though one were watching his work through a window.

Dowel-pins are supposed to be left permanently in place, and I have so far had to remove only one which worked out of a fracture of the neck of the femur after union had been obtained. The number of pins to be used in any given case and the length of pins will depend entirely on the judgment of the operator. For a fractured rib or clavicle a single pin less than an inch in length should commonly suffice. In fractures of larger bones I have used pins two or three inches in length. When we are dealing with a short fragment, easily rotated, as in fracture of the inner condyle of the humerus, two pins are likely to be required for accuracy of adjustment.

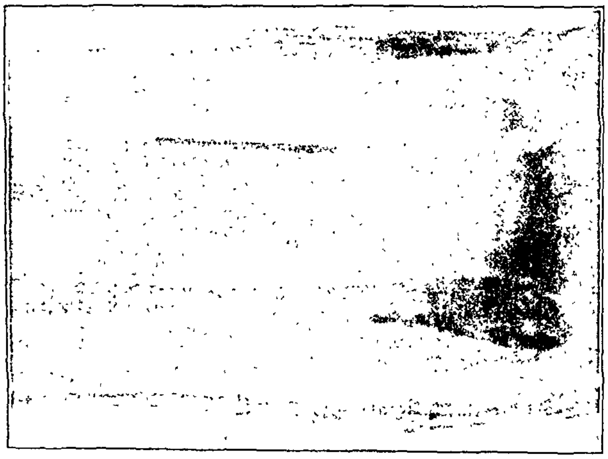

Fig. 3.—Same case as Figure 2; observation from another point of view showed pin not traversing fragments at all, but pushed alongside of tibia instead.

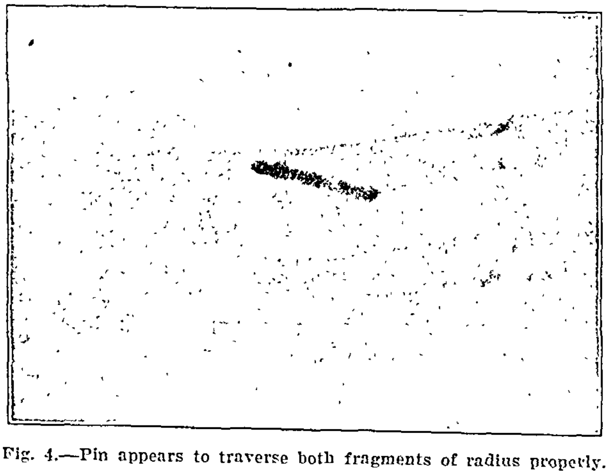

Fig. 4.—Pin appears to traverse both fragments of radius properly.

In cases in which fragments of smaller bones are not readily brought into position by assistants, an incision sufficient to allow the entering of a tenaculum or bullet forceps may be made (a refractory fragment is thus held in place), and the procedure is then completed with the aid of the fluoroscopic screen. This avoids the necessity for long incisions required for the introduction of Lane plates, and avoids extensive injury to soft tissues such as occurs in common methods of wiring fractured bones.

In one case of separation of the distal epiphysis of the humerus, and in another case of fracture of the radius with interposed tissue, it was necessary to abandon the work with the fluoroscopic screen and to make long open incisions, because neither traction nor manipulation, nor yet the use of fracture forceps, allowed the fragments to be brought into good position. I mention this point to show one of the limitations of the new method.

In a number of cases examined with reference to the idea of introducing dowel-pins, it was observed that ordinary splints sufficed to hold fragments in good position, and nothing further was attempted. It would have been meddlesome.

The chief accident likely to occur in the introduction of a dowel-pin is sliding the pin alongside of a bone instead of through the drill openings. This I have done twice, once in a spiroid fracture of the tibia (Figs. 2 and 3) and once in a fracture of the humerus. If one watches the fluoroscopic screen closely and has a clear picture, with the screen moved to two or three points of observation while he is at work, the accident is not likely to occur. It is best avoided by pressing the cannula against the bone with considerable force, and keeping it snugly in place between the moments of removing the drill, and of entering the pin.

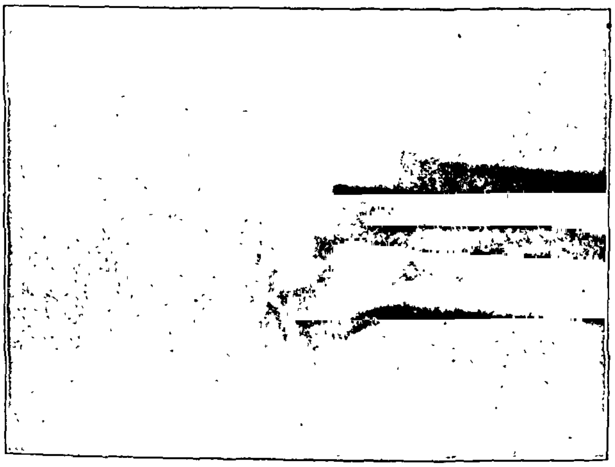

Fig. 5.—Same case as Figure 4; from another point of view. Pin traversing upper fragment of radius but missing lower fragment.

In Figures 4 and 5 the pin traversed the drill opening in one fragment properly, but missed the opening in the other fragment, even though I took away the screen, made a small incision, and then held the lower fragment in what appeared to be good position with a pair of bullet forceps.

One of these failures, illustrated in Figures 2 and 3, was due to observing the site of fracture from one point of observation only. In the other case (Figs. 4 and 5), with a small open incision, failure was due to my allowing the lower fragment to slip out of place at the moment when the pin was introduced, not using the screen for that point of procedure. No matter how well fragments seem to be kept in position with dowel-pins we must use the customary splints in addition, because during the period of osteoporosis pins might loosen under stress.

In old un-united fractures I have preferred up to the present time the long open incision and the use of Lane plates or wiring, for the reason that the ends of bones in such fractures usually need to be freshened. In selected cases of old un-united fractures I shall later experiment with dowel-pins, adding the resource of Bier (blood injection), but suitable cases for this experiment have not as yet been found in my clinic.

In cases in which we have interposed tissue, as for instance, in fractures of the patella, the dowel-pin will not be a proper resource, but it promises to have a field of usefulness in our every-day work.

The time for using the dowel-pin is ordinarily five or six days after the receipt of a fracture. At this time if we have used splints or extension apparatus, or both, exudates have undergone partial absorption, and the area is protected against infection by an established local hyperleukocytosis.

Just as this article is ready for the press, Dr. Kast suggests that accidents due to observing fracture sites from one point of view only, may be avoided by employing two *x*-ray tubes simultaneously, placing them at points which allow a view of fragments from two directions, without the necessity for changing the position of a fractured limb.

616 Madison Avenue.

EXPERIMENTAL AND CLINICAL WORK TO DETERMINE THE VALUE OF LANE'S BONE PLATING [*]

WILLARD BARTLETT, M.D., AND W. R. HEWITT, M.D.
ST. LOUIS

A visit to Mr. Lane's clinic at Guy's Hospital inspired an inquiry into the practical utility of the traction appliance, one of the most ingenious mechanical procedures which has ever been adapted to surgical therapeutics. In pursuit thereof, thirty-four screws, about half of them infected, were driven into the long pipe bones of dogs, and withdrawn at intervals, varying from one hour to seventy-one days, to determine the force needed to dislodge them, it being presumed that our surgical interest in most fractures does or should cease in ten weeks if all goes well.

In addition fifty-two patients were operated on, at periods ranging from a few hours to eight months after the injury. A critical study of the results is undertaken after a lapse of from five weeks to one year, respectively.

REPORT OF EXPERIMENTS

EXPERIMENT 1.—Immediate withdrawal, small dog, March 18, 1911. No. 3 ⅜-inch screws.

	Pounds
Left femur	75
Right femur	74
Right humerus	78
Left humerus	90
Average	79¼

This animal died under the anesthetic. hence simply a preliminary test of resistance to withdrawal was made. The bones averaged about 1 cm. in diameter and the cortex about 2 mm. in thickness. I am indebted to Dr. Erlanger for suggesting a self-registering spring-balance which was used in this and all succeeding experiments.

EXPERIMENT 2.—Two days. Infected April 29, 1911. One No. 3, ⅜-inch screw in each femur and humerus. Medium-sized yellow dog. Tumor on lower jaw. No attention paid to asepsis; wounds not sewed up. Died May 1.

Dr. Garrey helped withdraw the screws with direct forceps, etc. Stinking yellow pus in each wound; peritoneum dissected by it extensively.

	Pounds
Left humerus	44
Right humerus	10
Left femur	40
Right femur	42
Average	34

Pulled with double wedge forceps may make result too low and not wholly the consequence of infection. It would seem early for screws to loosen.

EXPERIMENT 3.—Ten days. March 18, 1911. Small, white mottled bitch. One, ⅜-inch, No. 3 screw in each femur and humerus. All wounds aseptic and sutured. Brand No. "1." Right ham.

March 31, 1911: Withdrawn after death, three days ago.

	Pounds
Right femur	42
Left femur	80
Right humerus	75
Left humerus	100*
Average	74¼

* Wire broke.

All wounds aseptic, healed.

EXPERIMENT 4.—Twenty-seven days. April 22, 1911. Small, 4-pound grey bitch. One slit in each ear; without any asepsis; wounds left open. Six No. 3 screws, ⅜-inch long were driven in both humeri and femurs; one right radius, also one left tibia. May 19, killed by chloroform.

Original	Control
42 right humerus	44 (infected)
6 left humerus	66 (infected)
42 right femur	66 (clean)
58 left femur	76 (clean)
37 average	63 average

Radius and tibia not drawn.

Right humerus, skin healed. Granulation tissue around screw-head. Cortex absorbed (in bottle).

Left radius, open granulating wound, cortex absorbed on near side. Screw perforated bone through cortex of opposite side. No lesion on far side (bottle).

Right radius, skin healed, pus and granulation tissue around screw-head. Some absorption of cortex (bottle).

All bones on front leg showed great thickening of bone about absorption locus.

Right femur, healed, normal appearance.

Left femur, bone appearance normal.

Left humerus, granulating wound open; cortex absorbed. Screw pulled at 6 pounds, caught in cortex of one side only. Control-bone broke at lesion without pulling screw, 66 pounds.

Thickness of cortex, 1.5 mm.

Average diameter of bones, 7 mm.

EXPERIMENT 5.—Forty-two days. April 11, 1911. Largest black dog, weight 66 pounds. No. 3 screws, ⅜-inch in each femur, humerus, ulna and tibia, 8 screws in all. Killed May 23, 1911.

Original		Control
75	R. humerus	90
120	L. humerus	180 (fail)
166	R. femur	
136	L. femur	Thickening to level of head
160	R. radius	
82	L. radius	115 granulations
150	R. tibia	142
	L. tibia	
127	average	131¾ average

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[*] Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[*] Because of the space that would be required, the case reports are here omitted, but the complete article appears in the Transactions of the Section, and also in the authors' reprints, a copy of which will be sent by the authors or by THE JOURNAL on receipt of a stamped and addressed envelope.

[*] Experimental part from Surgical Department of Washington University. Clinical part from St. Louis City Hospital.

All wounds healed by first intention. Left tibia preserved to show screw-head embedded under tendon in fibroma, size of small marble. Around screw in left femur thickening to level of head. In left radius, evidently an infection. Granulations, absorption of cortex around screw and thickening of adjacent bone.

Experiment 6.—Sixty days. March 25, 1911. Brand III. Yellow bitch, weight 15 pounds. A screw in each femur and humerus, No. 3, ⅜-inch. Killed May 24, 1911.

Original	Control
57 R. femur	68 bone broken at normal hole
60 L. femur	69
96 R. humerus	63
110 L. humerus	48 granulations (Path)
80¾ average	62 average

All wounds healed clean, screws bright. Bones (three) look as if screws had just been inserted (except left humerus). In left humerus slight osteoporosis around screw, and cortex elevated in ring surrounding it (slight). Left humerus to pathologist.

Original at sixty days pulled higher than controls.

Experiment 7.—Seventy-one days. March 21, 1911. In each femur and humerus one screw, size No. 3, ⅜-inch. Smallest Lane drill. Brand "11," right ham. Killed May 31, 1911.

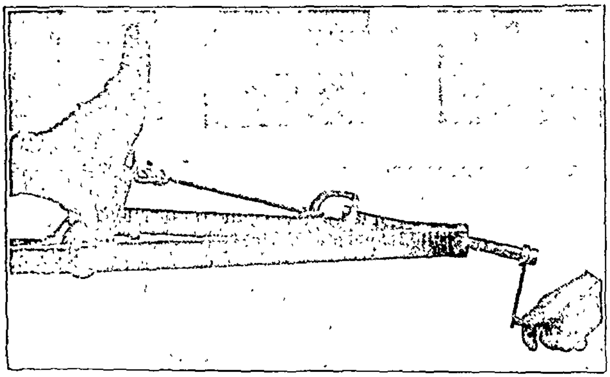

Fig. 1.—Traction appliance attached to table and in use.

Original	Control	Diameter mm.
100 R. femur	88	9
0 L. femur	112	11
130 R. humerus	128	9
125 L. humerus	110	
118 1/3 average	109½ average	

All skin wounds healed.

All except left femur looked as if screws had been freshly driven. Screws bright; contour of bone unaltered. Left femur infected, granulations, osteoporosis, thickening. Average thickness of cortex, 2 mm. Average diameter of bone, 10 mm.—1 cm. Screws are 1 cm. long. Dog smaller than average used.

An average pull of 95 4/5 pounds is required to dislodge clean No. 3, ⅜-inch screws, from dog bones with average cortex of 2 mm. after they have been in place from one day to seventy-one days. On the other hand 41 7/9 pounds will accomplish the same thing with infected screws. There was but one exception to this rule; here it required 110 pounds at sixty days to withdraw an infected screw, when the average of controls on this dog was but 62 pounds. In the dog the skin heals in a few weeks over the infected screw, but this has little effect in the tractive force required to dislodge it. An interesting phenomenon is the constant absorption of bone cortex around infected screws and a thickening around this area. Often the screw-head was almost hidden completely, so in one instance, apparently, Nature takes good care of an infected foreign body in dogs.

We are indebted to Drs. Opie and Smith for microscopic study of several bones in which screws had been driven and extracted. In Experiment 4, the left humerus presented an absorption locus around the screw and surrounding this crater there was an elevated ring. This latter proved to be young bone with osteoblasts to be seen in many fields. Osteoblasts were determined in the area where absorption was taking place and a diffuse infiltration of lymphocytes marked the tissue surrounding which was apparently the defect made by the screw.

The left humerus in Experiment 6 presented practically the same microscopic picture in every particular.

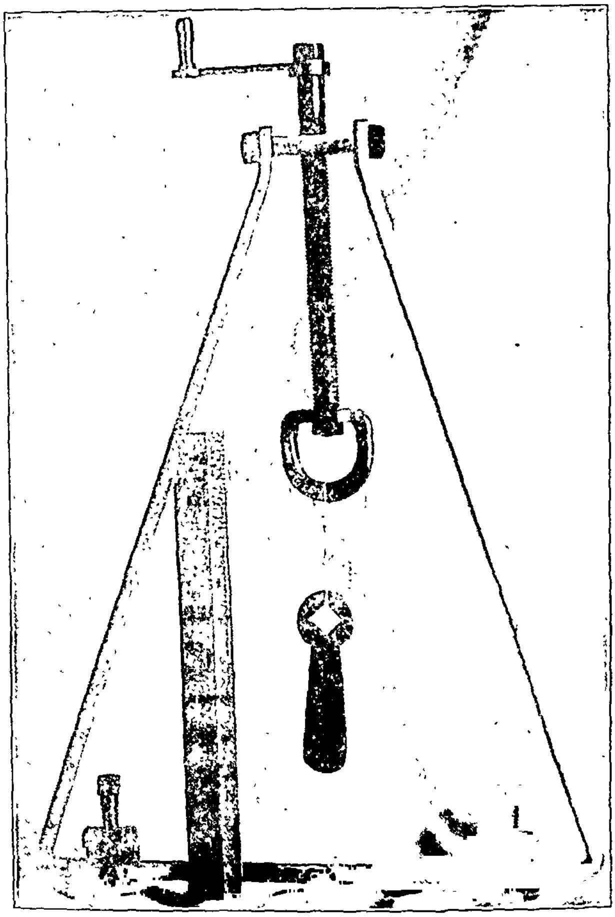

Fig. 2.—Traction appliance in detail.

A clean screw and the bone in which it is imbedded look just the same whether viewed when inserted or seventy-one days later. In other words, no macroscopic reaction occurs unless infection takes place.

It is of more than passing interest to note that clean screws, which have lain in bone for more than sixty days, required, in these experiments at least, more traction for their dislodgement than did their controls. If the same experience is had with the human subject, it is not devoid of interest so far as fractures are concerned in which union is delayed beyond the usual period.

As stated above, a pull of more than ninety-five pounds was required to withdraw the average clean screw of No. 3 gauge, from bones of about 2 mm. cortex. Now, the corresponding human bones have a much thicker cortex; moreover, we use No. 5 and No. 7 screws which are much larger in every dimension, to say nothing of the fact that as many as ten of them are imbedded at one time. It does not require much mental effort to picture the great amount of force needed to tear such a plate out of an aseptic wound at any time in its history, provided only it has been correctly applied; viz., by means of a drill the size of the screw barrel with the screw threaded to its head.

Of course, we take into consideration only a direct pull on the screws. As to leverage sufficient to break a plate or tear out a screw, that is quite another matter; it is for this that splints are used. Since not an infected screw dropped out in all my experimental work, it stands to reason that it is some external influence which loosens them in the human subject when infected. No doubt, this is the leverage exerted by the fragments which are not kept immobile long enough for healing to take place in the presence of a foreign body, as one experience with compound fractures has shown to be possible in certain instances.

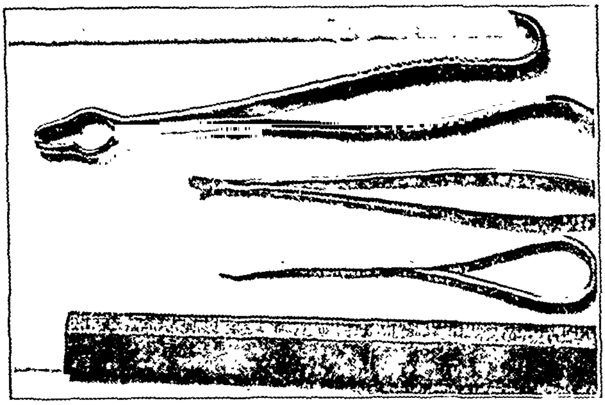

Fig. 3.—Bone forceps (Lane's), screw-holder (Lane's) and screw-driver.

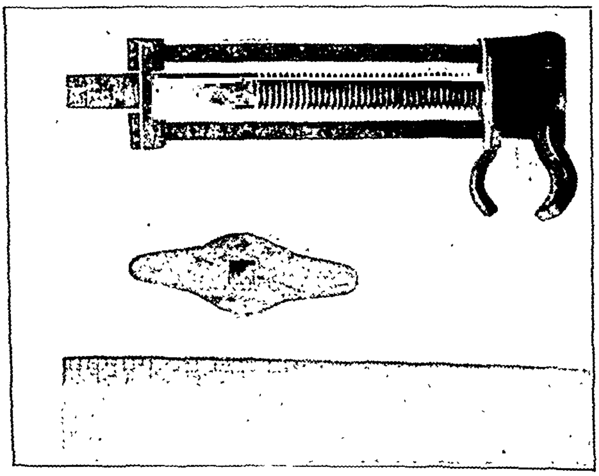

Fig. 4.—Embracing instrument.

CLINICAL DATA

At the end of this article* will be found the full histories of our fifty-two patients. We are unable to trace twenty-three from the time they left the hospital, and one is too recent to be of value; thus, we have for final study twenty-eight end-results.

Forty-three wounds healed by first intention, five were infected, one was left open to granulate, and in three instances, the history makes no mention of this feature. Only three of the above infections were in clean cases.

A solid union was obtained in twenty-five cases; non-union resulted once; two patients have died, and one operation was performed only five weeks ago.

Eight plates were removed; five of them being in simple fractures. One had compressed the musculospinal nerve; one occasioned a refracture (Case 11), one was infected at the time of operation, but as to indications for removal of the other two, we are not certain, since we did not take them out.

Five of these fractures were compound; two of them healed by first intention; two were infected; one granulated over the plate and went on to complete healing. Three of them got solid union, and in three the plate had to be removed.

There was a fatal result in two instances:

Patient 2, a chronic alcoholic, died of pneumonia, eight days after a fractured clavicle was plated. This case was badly chosen.

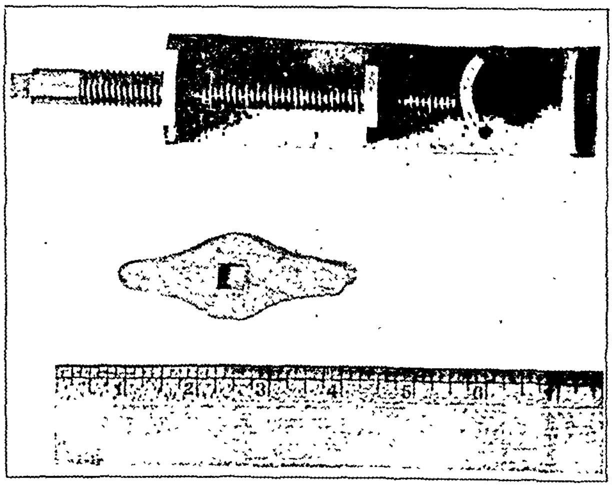

Fig. 5.—Embracing instrument.

Patient 5, another chronic alcoholic, managed to obtain whiskey from a friend a few days after the operation, became intoxicated, developed delirium tremens, saturated a thigh dressing with urine and feces, became infected and died on the fifteenth day.

This gives us a mortality of 3.84 per cent., which is not to be treated lightly where the operation is done for cosmetic or functional impairment alone.

We regret that we cannot give ultimate details in more cases. By letter, personal calls, etc., every effort to follow our patients was made, but many of them were "floaters," who had no permanent address.

If then, these statistics leave something to be desired, it must be remembered that most of these were cases picked as being too difficult for other forms of treatment, and that our city hospital patients are frequently poorly nourished and of the worst possible habits. In private practice one of us traced all his eight cases. Every patient got first intention, also solid bone union with perfect functional result. (W. B.)

Our city hospital is a training-school for doctors, hence the possibility of infection is greater. Doctors and nurses change, misunderstandings as to splints and dressings occur and hence a method gets an unusually severe test, to say the least.

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* See footnote at beginning of the article.

A refracture which occurred in Case 11, after plating, is of singular interest. Seventeen days after his humerus had been plated, this patient took off his dressing, swung his arm free, and something snapped. On a second operation, the three screws in the upper fragment were as they had been left, while the remaining three held firmly a triangular fragment of bone which they had torn out of the lower half of the shaft. No 11 is really not a plating case at all. We failed to make a plate hold here; the case is included merely for its allied interest.

Cases 13, 14 and 16 are interesting from the fact that all three illustrate successful surgical treatment of greatly impaired musculospiral nerves. Surely this is an argument in favor of the method at times.

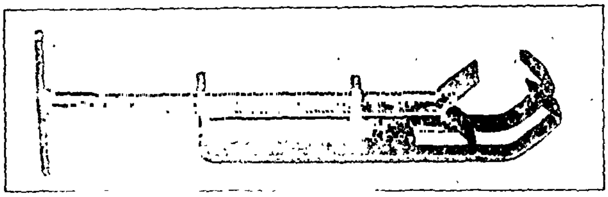

Fig. 6.—Embracing instrument.

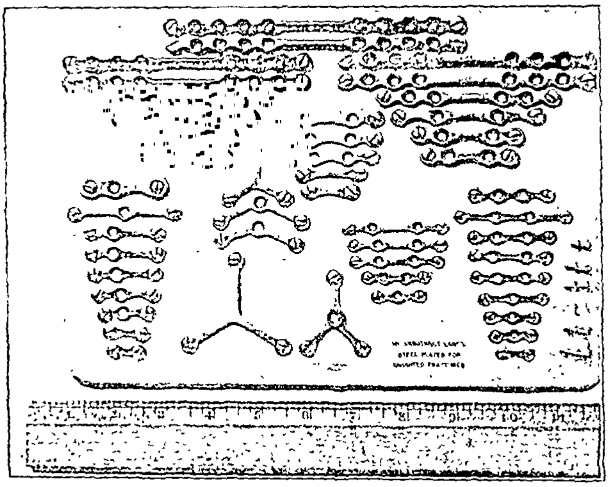

Fig. 7.—Lane's bone plates.

Case 24 will repay a perusal in its entirety. Here the ulnar nerve was sutured, the ulnar artery ligated, a number of tendons sutured, the ulna plated and other structures partially approximated in a compound injury; all these processes were accomplished with an ideal result.

A rather extensive operation was done on Patient 28. After plating an oblique fracture of the tibia, we did the same thing for a fibula which was broken in two places with a 2-inch fragment disposed at right angles to the axis. As a result, both wounds healed promptly and the man now does hard work on foot all day long.

Patient 36 was carrying trunks for a living—if his statement is to be believed—six weeks after we had plated a spiral fracture of the tibia, also a double one of the lower end of the fibula.

No amount of abstract reasoning can govern every case. Merely an effort is made here to show what our experience would indicate regarding a choice between forms of treatment.

Open	Closed
GENERAL ANESTHESIA	
Always used, fairly long.	Often used, short.
INFECTION	
Can almost certainly be prevented in clean case by modern technic.	Not to be reckoned with.
DISABILITY	
Much shortened, especially in lower extremity. Of great importance to wage-earners and the aged; *more so in summer.*	Much longer, especially if an oblique fracture and if extension is required.
NON-UNION	
Preventable as far as interposition on tissues is concerned.	Interposition of soft tissues apparently a common cause.
ANATOMIC	
Perfect if primary healing.	Rarely perfect, often deforming.
FUNCTIONAL	
Perfect, provided primary healing is secured.	Often better than anatomic would lead one to expect.

If we heard Mr. Lane aright, he told us in London, last summer, that he plates every case. It is our opinion, however, that the surgical world will never be quite so radical.

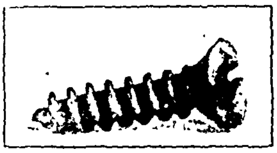

Fig. 8.—Lane's screw.

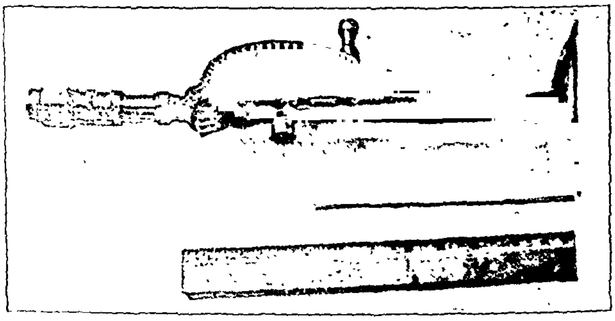

Fig. 9.—Drill-press and drill.

We try to get a result by the closed method in any fracture of any bone that can be placed and held in accurate position as shown by x-rays. Lane's treatment is never applicable to one who is a bad operative risk. No consideration of function can offset a risk to life.

Lane's plating is the best form of treatment known to us, for non-union or mal-union, and is indicated in all fractures which cannot be readily kept in place. It cannot, however, be recommended as a harmless procedure in the hands of surgeons generally. It is something of a specialty and requires its own extensive armamentarium; at the same time it will tax the mechanical resourcefulness of the best operator.

We advise waiting a few days before operating, or until the initial shock is past, bleeding has ceased, and a wall of granulation tissue partially protects from infection.

For a leg fracture not too near the ankle, traction to any degree required can be obtained and the force rather evenly distributed by applying it at the heel of the patient's shoe. A lace-shoe large enough to permit of free dorsal padding is used after a "screw-eye" has been driven through the mid-line just in front of the heel and anchored in a thin steel plate similar to an insole (Fig. 1). Our traction appliance is shown in Figure 2.

Make an incision that reaches the bone by the most direct route, which permits important vessels and nerves to be avoided. Where there is over-riding, the incision does not have to be as long as one would suppose, since traction lengthens it markedly. None but the most rigid asepsis can avail here. The skin is covered with towels, clamped to its cut edge. No fingers go into wounds and no instruments that have been touched are allowed to come in contact with exposed tissues. All needles and threads are handled with forceps, threads being mildly antiseptic.

Long-handled instruments permit of great leverage; they also enable an operator to work without danger of a hand getting into the wound. Figure 3 depicts Lane's bone forceps and screw holder, together with our own simple screw driver which any mechanic can make.

One need not concern oneself about periosteum; in fresh cases the work will be done within this envelope, but where the operation is undertaken for deformity or non-union at remote date, the periosteum is not likely to be opened. In any event, one should hug the bone and handle the soft parts as gently as possible.

It will often be found when the fragments are exposed that the *x*-ray is not an infallible guide. We occasionally met with a double fracture when the *x*-ray showed but one, and were frequently surprised in other ways.

In a recent fracture, over-traction is exerted until the ends of the fragments are separated by ¼ to ½ inch, after which one of the embracing instruments shown in Figures 4, 5 and 6, is applied. This lines up and guides them as the tension is relieved, with the effect that all spiculæ are forced to dovetail by muscular traction so perfectly that the break can hardly be seen. The "embracer" holds a Lane plate of the desired size which can now be screwed in at leisure.

This technic reduces the difficulties of the procedure to a degree which can be greatly appreciated by the operator, who has done this work with merely the armamentarium advertized as Lane's outfit, and especially appreciated by one who has attempted it with the instruments used in general bone work.

Another value of an embracing instrument is strikingly shown in two cases in which Dr. Carson, head of the department of surgery, recently operated. After applying the Martin instrument, he simply packed the wounds and allowed them to granulate. They healed within the usual time and both patients were discharged from the hospital with solid bony union. In a personal communication, Dr. Carson assures us that no harm was done to the bone by the long-continued pressure of the metal clamp.

We use Jessup tool steel and have many plates made to fit a given injury, after the *x*-ray picture has been seen. Mr. Lane's own set of patterns is shown in Figure 7. Plates of Jessup English steel can be molded during the operation to a bony inequality by heating in the flame, bending as desired, and then cooled gradually by dipping end-wise into boiling water, after which they are ready for air or fluid of any temperature.

Mr. Lane long ago called attention to the importance of using screws threaded to the head, as in Figure 8, and drills of the same diameter as the stem of the screw, the flanges being made thus to cut their own way into the cortex. These rather obvious mechanical principles have not been universally followed, and the results of such a neglect can be imagined.

The long drills used by us and the simple but effective mechanic's "press" used to drive them are shown in Figure 9. A screw may turn in its socket when a dull drill burns the bone; we have wrapped wire or silkworm around bone and plate in a few such cases with satisfactory results.

Wounds must be entirely dry before they are closed; this makes the use of a drain superfluous in clean cases, if, indeed, its use be not a menace to primary healing. Every tissue plane must be accurately reunited by layer sutures until the surface is reached.

The ideal skin closure is made with subcuticular suture of catgut, after which no change of dressing is recommended until the patient is discharged at the end of several weeks. Immobilization is required for as long a time as would be the case if no open operation had been done. We like to use plaster of Paris, though in many instances board or metal splints have been applied for a few days until swelling has subsided.

4257 Washington Boulevard—7116 Sanborn Avenue.

THIRTY YEARS' EXPERIENCE WITH FRACTURES AT MINNEQUA HOSPITAL: TREATMENT AND RESULTS[*]

R. W. CORWIN, M.D.
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No attempt will be made to cover the field of fractures, but this paper will briefly state how we deal with fractures at the camps, plants, and hospital of the Colorado Fuel and Iron Company which employs from 15,000 to 17,000 men; including their families, about 80,000 individuals are to be cared for medically, a task made none the easier by their speaking forty-seven languages, and by the fact that not a few understand no English.

In the period above mentioned, 11,035 fractures have been treated by us. Many of our camps are located several hundred miles from the hospital.

A patient is prepared in the following manner for transportation:

SOFT PARTS

Contusion: Application of cold or wet dressings.

Slight lacerations: Dry sterile gauze dressings.

More extensive lacerations: Meddlesome cleansing avoided. Application of wet mercuric bichlorid, diluted alcohol, normal salt or 2 per cent. solution of iodin.

The covering of a wound with dry powder or closing it without free drainage is discouraged. Iodoform and other disagreeable dressings are strongly tabooed. The patient suffers enough from his injury without being made an object of disgust to fellow passengers en route. The well may tolerate or become indifferent to offensive odors, but the sick are distressed.

HARD PARTS

1. Wrap leg in plain cotton, bandaging very loosely with roller bandage, using simply enough to hold the cotton in place.
2. Elevate the leg for convenience of applying bandage. The leg should be extended and steadied by assistant making traction on foot. The leg should now be encased. Plaster-of-Paris bandage is the simplest method of applying plaster.

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[*] Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

3. To avoid constriction, always cut the cast on each side; also always cut bandage holding cotton.

4. Reapply upper part of cast and tie same in place with bandage, which may be easily loosened. Never fail to instruct attendant to loosen bandage if the foot swells. This sort of splint may be applied to any part of the body needing special support.

On train: stretcher and mattress, but no springs.

On arrival at the hospital: General rules (as many as practicable): preliminary examination, bath, rest, little manipulation: *thorough examination*, under anesthetic; x-ray, two planes at least; temporary dressing until shock and swelling will permit of permanent dressing.

SPECIAL FRACTURES

Cranial: General Rules: Explore all scalp lacerations, no matter how trivial; explore all severe scalp contusions, by incision if necessary.

For opening the skull, the Hudson drill is preferred.

In fracture of cranium, remove as little and replace as much bone as possible. If a large piece must be removed, place it in normal saline solution, return it to its proper place and anchor by sutures.

To control hemorrhage in diploe, apply wax or lightly pack with long fiber cotton.

In every skull fracture, give hexamethylenamin (urotropin) freely; the first three or four days, 100 grs. each twenty-four hours.

Basal Fractures: Hexamethylenamin (urotropin).

Decompression as a routine has proved somewhat disappointing, except in progressive pressure-symptoms when it should never be neglected.

The mortality from this class of cases must necessarily be high, whatever the procedure.

Facial Fractures: Next to life, deformity should be considered. Observe symmetry. Many fractures have been compound.

Check hemorrhage. Mop out wound with tincture of iodin.

Replace bones, even spicules, if there be a possibility of establishing union. Hold them in place by suturing periosteum, or by drilling bone and anchoring with chromic catgut or kangaroo tendon.

Risk closing wound without drainage; it will often heal kindly, but on first intimation of abscess, reopen and drain.

In fractures of jaw, remember that teeth are a guide to apposition

Fine wire and dentist's clamp-bands will give greater satisfaction than external splints and bandage. They are cleaner, more easily observed and feeding is accomplished with ease.

SPINAL FRACTURES

Fractures of the spine at best are tragic. They usually mean a helpless and hopeless cripple, an object of pity, a constant sufferer, a living death, and a burden to self and friends. Often merciful would it be if paralysis from the seat of injury could extend upward as well as downward. Most of our spinal fractures occur at the mines, miles from the hospital.

Treatment: Immobilization at once, whether treated at home or transported. If the fracture be cervical, make gentle traction and support from the shoulder: if dorsal or lumbar, place patient on face between two tables. Make gentle traction and apply dressing, preferably plaster of Paris.

When to operate and when to treat otherwise, are vital questions needing prompt decision. Time may be an important factor. Theoretically, one's course is plain. When in doubt, explore. Practically, this is often unsatisfactory. Formerly our practice was to explore if in doubt. Now we hesitate. Our results are quite as satisfactory.

We never operate.
When death seems inevitable.
When the patient's consent has not been obtained.
When the case seems hopeless beyond reasonable doubt.
When the symptoms can be relieved by other means.

We hesitate to operate.
When there is profound shock.
When the case is of long standing.
When there is every reason to believe the cord is completely severed.

We operate when convinced that pressure on the cord may be relieved, whether it be from blood-clot, bone, or foreign body.

Early operations have proved more satisfactory than delayed operations.

Laminectomy under the most favorable conditions is frequently unsatisfactory, and under unfavorable environment may hasten death. Immobilization has given as good if not better results.

After treatment should be carefully considered in all operations on the spine. Incontinence of urine, involuntary stools, danger of pressure sore, lack of tendency of wound to heal, and danger of infection demand hospital and not home care.

We are resorting to expectant treatment more than formerly. We have more living proportionately to-day from nonoperative treatment than from operative treatment.

In most of our cases the injury is in the dorsolumbar region, and the fracture is usually through the body of the vertebræ.

STATISTICS ON SPINE FRACTURE

Total number of fractures of the spine (including all cases in which there were complications of internal injuries and instant death)	242
Number of cases inoperable, from complications or instant death	188
Number treated	54
Number treated by operation	18
Number treated without operation	36
Number living	25
Number operated and living (33 per cent.)	6
Number not operated and living (69 per cent.)	19

Pelvic Fractures: Dr. Moses Gunn used to say: "For fracture of the pelvis the doctor should do what is most difficult for a doctor to do: that is, do nothing." However, we find that immobilization by means of three or four 4-inch adhesive straps about the pelvis, or by plaster-of-Paris cast extending from the last dorsal to 6 or 8 inches down the thighs, for immobilizing the hip-joints, add materially to the comfort of the patient and shorten the time of repair. The usual fracture-boards should be omitted; the patient finds greatest ease in a "concave bed."

STATISTICS ON PELVIC FRACTURE

Total number in thirty years	334
Number operated on for injury of soft parts, such as rupture of bladder, urethra or rectum	36
Percentage recovering	94
Fatalities, total number	30
In cases operated on	5
In cases not operated on	25

FRACTURES OF LONG BONES

In fracture of long bones, setting accurately and retaining permanently without pressure must be our chief aim.

In simple fractures, for external support, we depend much on plaster of Paris, which in most cases, if properly applied after the disappearance of swelling, may be fitted to any position, cut so as to prevent pressure, admits of wide latitude of body movement, permits free examination of parts, is essential to cleanliness, is comfortable, inexpensive, and always at hand. When the plaster-of-Paris splint fails to accomplish all this, other splints are substituted or used in conjunction with plaster of Paris.

For internal support, when external splints have been shown to be failures by the x-ray, bone plating has proved very satisfactory—more so than wire, kangaroo tendon or staples. We avoid plating when tendon will serve, and are extremely cautious when there is little covering of soft parts: for instance, about the ankle. Rarely have we been obliged to remove plates on account of infection or irritation. When they have been removed, however, they have usually accomplished their purpose, and union has been sufficiently established so that external splints suffice. Frequent observation by the x-ray should be made that the condition of the plate may be known. Results of experiments with plates will be mentioned later.

Classification without detail is difficult, our records show the following results:

Number of fractures	11,035
(About 0.5 per cent. of the 2,000,000 cases of all kinds treated).	
Results have been classified under the following heads:	
Perfect results, per cent	66.87
(Those in which function has been restored and deformity is not objectionable).	
Imperfect results:	
Partial—Slightly deformed, per cent	8.75
Functionally or seriously deformed, per cent.	7.25
Wholly—Loss of function, per cent	3.33
Loss of limb (including fingers and toes) per cent.	9.11
Death, including all in which bone fracture is a prominent feature of injury, per cent	5.25

SOME DEDUCTIONS FROM EXPERIENCE

The first dressing of a compound wound is important; it cannot be done too carefully; it is often made worse by improper efforts. Better is it to let Nature cast off the foreign matter than to force it more deeply into the tissues by careless, meddlesome handling or too much scrubbing.

The closing of a compound wound without drainage is pernicious, and to add dry powder to a complete closure shows lack of experience. Suppuration is almost sure to follow a lacerated compound wound thus treated.

Provision for swelling is of the utmost importance; it cannot be emphasized too strongly; every physician knows that, but occasionally it is neglected.

The first examination cannot be too thorough. The condition of the patient, use of fluoroscope, *x*-ray, anesthetic and proper environment for future treatment, are of vital importance to both patient and physician.

We should neglect no opportunity to teach the laity the advantage over the home of a hospital, where there are nurses, resident physician and every convenience in case of emergency.

In head injuries the use of hexamethylenamin should be emphasized.

In spinal injuries act promptly but not hastily.

In fractures of long bones we should remember that

> "Functional results are more important than anatomic accuracy."
>
> Simple fractures, if possible, should always be treated by external support; but if reduction be difficult to obtain and maintain, unhesitatingly resort to the open method.
>
> The patient's general condition must always be considered.
>
> The medicolegal aspect must not be overlooked.
>
> Danger from infection, injury to a joint, vitality of bone, and environment for operation must be weighed.
>
> An incision should be sufficiently large to expose well the parts involved and make much manipulation unnecessary. Blind surgery involves risk.

The splint should be one that supports but causes no undue pressure, which may be removed at will for dressing or massage, and which permits the patient being taken out of doors for fresh-air treatment. Plaster of Paris will meet these requirements if properly applied and used, if need be, in conjunction with other mechanical devices.

The result of plating depends on method, material and position. Only he who is thoroughly prepared to do perfect aseptic surgery in a delicate and mechanical manner may expect uniform success in bone plating. Possibly electrolysis should be considered in connection with plate and screws of different material, or plate and screws each of two or more metals. Non-irritating material is imperative. A plate where there is little tissue over it, where the tissue is drawn over it, or where it fits poorly—or becomes loose—is apt to give trouble, and sooner or later must be removed. Better wait for swelling to subside before plating, if possible. Early plating is most apt to find firm bone.

Experiments with plates the past winter on lower animals indicated the following:

> Copper and brass plates or screws irritate and produce serious pathologic changes.
>
> Silver-plated plates, steel or iron plates and screws are non-irritating.
>
> A plate placed on the periosteum, or on the bone where the periosteum had been removed, produced the same favorable result.
>
> Arched or elevated plates resting as little as possible on the periosteum or bone are no better than flat plates resting throughout on the periosteum or bone.

Fortunately we are no longer obliged to resort to the Sir Astley Cooper method of reducing fractures and dislocations by bleeding, administering tartar emetic and placing patient in a tub of hot water until fainting results, in which condition, relaxed from exhaustion, the patient is treated.

Was is not Syme who said to Lister when a student, "We have reached the climax in surgery—you need look for nothing new"? That was only a generation ago. Another generation will do more for fractures than the past. Splints will no longer be needed, and plates, staples and wire will give way to a process of artificial welding, or better, artificial growing of new tissue.

Now, as a final word, I am aware of the little scientific worth of this report of thirty years' experience. It lacks detail, but detail would not improve it; but it does contain my effort of a generation, and I thank you for the privilege of presenting it; and if you will extend the privilege another generation, I will promise to give you a good report.

I wish to acknowledge the aid of my associates at the hospital, Drs. Adams, Senger, Dunlop, Schwer and Wilson, who have been of the greatest assistance to me in my work and in compiling statistics for this paper.

THE OPEN TREATMENT OF FRACTURES OF THE SHAFTS OF THE LONG BONES[*]

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The limitation of the subject as indicated by the title is based on the hope that thereby there might be suggested a discussion more detailed than could have been provoked by a wider consideration.

The general indications for the open treatment of a fracture are afforded by the presence of a break accessible to intervention, which cannot be reduced and retained so efficiently that union without disfiguring deformity or crippling disability is reasonably assured. Further indications are afforded by the presence of a wound communicating with the seat of break and by non-union or vicious union.

The general indications governing the open treatment of fractures are:

1. Surgical cleanliness carried to its furthest development.
2. Operation as soon as it is clear that this is needful.
3. The securing of apposition with the least possible stripping of periosteum from bone or soft parts from periosteum.
4. The selection of an internal splint or support of the smallest bulk and of the easiest application compatible with the strength and persistence of the fixation desired.
5. Instruments and appliances which make the application of the fixation apparatus of choice easy and non-traumatizing.
6. The application of an external support which, during the period needful for union, prevents twisting and angling strains at the seat of fracture.

Surgical cleanliness necessarily implies that the fingers must not be put into the wound since patched rubber gloves often leak even before they are put on, and new ones, though they be of extra thickness, are generally torn or punctured at once if the rough bone ends are handled. Even in simple operations, as hernia and appendicitis, a large proportion of the rubber gloves used by the operator and his assistants are punctured. This can readily be demonstrated by blowing up the gloves after the operation and holding them under water.

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[*] Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911

Early operation is indicated because then complete reduction is most readily accomplished. Moreover, when one careful effort made under anesthesia fails to reduce, this end is rarely attained by subsequent efforts or by splints and bandages supplemented by extension: nor, if the principle of immediate operation when indicated be adopted is there need of a second anesthesia.

When *x*-rays are available, and this should be always, when operation is contemplated, they give such complete knowledge in regard to the position of the broken bone ends, that methods of examination other than inspection and measurement should be omitted, since the latter traumatize and give pain without compensating advantage.

The incision by which the fracture is reached should conform to the general principle that it is so planned as to injure no important structures, and is so placed and spaced as to make the seat of operation most accessible. Since it is rare that the convenient skin incision accommodates itself to the natural line of cleavage, the final skin suture, which should be most accurate, is sometimes difficult. The percutaneous and the lock stitch will be found serviceable.

The seat of the fracture having been exposed, apposition is secured by longitudinal pull, lateral traction, torsion and angulation.

Lateral traction may be applied by means of a metal hook passed over the broken cortex into the medullary cavity, or by tape carried around the shaft of the bone by means of a blunt curved needle.

By angling out over the arm of an assistant, the broken ends can be placed in apposition; straightening the bone then overcomes the resistance of the soft parts.

In many fractures which have not been operated on within a week of the time of injury, and particularly in old fractures, these measures of reduction often fail to overcome shortening. Unless this be so great as obviously to require resection, it can best be reduced by longitudinal traction applied directly to the upper end of the lower fragment. The simplest device for the attainment of this end is a stout canvas band, the middle of which is placed over the proximal end of the distal fragment. The two ends are then brought parallel with the limb, and into the loops with which each is provided is passed a rope, to which in turn are fastened weights.

In the case of fractured femur 100 pounds are required, sometimes double this; and we have been compelled to use nearly as great force in fractures of the forearm bones. The weights are allowed to exert their pulling effects for from five to ten minutes, traction being continued until there is an actual lengthening of about one-quarter of an inch. This over-stretching is distinctly serviceable in lessening the strain to which the buried fixation apparatus will be subject. Moreover, it allows an easy apposition of the broken bone ends after the weight is removed.

Apposition having been secured, and in the least traumatizing way, at times by simple incision and slight moulding of the parts, if there be no tendency toward reproduction of the deformity and if it seem probable that the good position secured by operation can be maintained by external splints, without internal bracing or support, the wound may be closed without placing in it any foreign body. If it seem clear that a bone suture supplemented by external splinting will be adequate, kangaroo tendon may be used. If the fracture be oblique and not likely to be subject to severe strain, screws, nails, staples or even tendon suture through drill holes will prove adequate. If by none of these means can the reduced fracture be retained in position, the steel plate is indicated.

If the fracture be of the femur and transverse not only is the steel plate indicated, but one of considerable strength, particularly in fat, muscular subjects, since by no means of splinting can we put the break completely at rest or protect it entirely from twisting or angling strains.

Since the tolerance of tissues to foreign bodies is inversely proportionate to the bulk of the latter, it is of vital importance, if plates be used, that these be of the smallest size compatible with the strain to which they are to be subject.

An experimental trial of the plates sold by instrument makers has demonstrated that these break at greatly differing stress, and that in some instances the force required to break them is comparatively slight. The break usually occurs at the screw hole nearest the seat of fracture, the point of greatest strain, and, as the plates are made, the point of the greatest weakness of the plate.

Because of such an accident having happened in our clinical work, we have endeavored to secure a stronger material than that usually supplied, and have had constructed of vanadium steel, by Lentz, a plate much stronger than that now supplied and so planned that it is reinforced at the usual point of breaking. It is probable that these large strong plates will have no application in regions other than that of the thigh, but since the femur is the most difficult bone in the body to protect from cross-strain after plating, there is distinct need when operating on this bone of an implement on which entire dependence can be placed. The major advantage of the vanadium steel is incident to the fact that great strength may be secured in small bulk, and that under ordinary clinical conditions it would seem almost impossible to break buried plate made of this material.

If plating be the operation of choice, it is absolutely essential that the drill for boring the screw holes be of such size that the screws may be driven in easily and yet may cut their own threads; as manufactured, they so vary in pitch and diameter that a tap is not serviceable. Many screws should be provided so that if one drives hard it may be readily replaced by another. The screws should be threaded to their heads and be of such length that they will reach the medullary cavity and not pass far into it.

In testing plates we have found that two screws on each end of a plate, driven through one thickness of the cortex will hold beyond the breaking strain of the plate, therefore, through-and-through screws and more than four are unnecessary.

On general principles the nearer the screws to the seat of fracture, the stronger the fixation; if, however, the screws be placed nearer to the line of break than one-quarter of an inch they are likely to tear loose if subject to a severe angling strain.

The fixation of the plate is greatly facilitated by instruments which will hold it in place while holes are being drilled and screws driven home. The most universally serviceable instrument is the Lohman clamp. These smaller clamps are often useful. The Lambotte forceps, or rather Lentz' modification of it, is useful, not only as a plate holder, but as a means of accomplishing that complete reduction which is sometimes prevented by spicules of bone.

The screw-drivers used should be those which hold the screw in jaws while it is being driven home.

When a strong plate is firmly fixed by screws the surgeon may feel that he can almost, if not quite, dispense with external support. Indeed the union seems as firm as would be, for instance, that accomplished in the same manner with dried bone. This is not the case. By twisting and rocking motions of the limb peripheral to the break, the line of fracture can always be made to perceptibly widen and close. In other words, there is always potentially slight motion at the seat of plating, or fixation by any other mechanical means. Unless this slight motion is reduced to its possible minimum by external splinting, loosening of the screws or other support is inevitable. This we have demonstrated by many experiments, having conceived the idea that it might be possible to apply an internal splint of such strength and firmness that without any external support it would hold the bone in place till healing had been accomplished. Moreover, there are many *x*-ray pictures which prove the same fact.

The after-fixation of fractures treated by the internal splint is best secured by a plaster-of-Paris casing, so applied that not only the joints on either side of the fracture are fixed, but that the muscles which act on the bone ends are also for a time kept at rest. This implies in fractures of the leg bone an envelopment carried up to the middle of the thigh. In fracture of the femur a cast from the foot to the ribs. In the forearm bones a cast from the midphalangeal joint to the shoulder. In the arm bone a casing including the shoulder and extending to the midmetacarpal region. These casings should be split while soft so that in part they can be removed, allowing the seat of operation to be inspected and massage and passive motion to be applied as soon as advisable.

As to the results of the open treatment of fracture. many are good, some indifferent and a few distinctly bad.

It is noteworthy that union is usually delayed, that the time of treatment is not materially shortened, that the results are not uniformly good. But, taken as a whole, they are infinitely better than could possibly have been secured by other than operative means.

Even in the cases clean at the time of operation, there have been a few instances of infection; this infection has, however, in two of my cases of femoral fracture, been of a peculiar type, becoming manifest in about three or four weeks after the time of operation and characterized in the meantime by a very slight elevation of temperature well below 100. The infecting organism was the *albus* and had no communication with the plate or seat of fracture, involving the subcutaneous tissues alone. In one instance, for example, the indolent abscess. formed some weeks after operation, was not even near the site of incision.

There has seemed to be a relation between the size of the internal splint and the promptness of final union. In other words, we have felt that the less foreign matter we put in the wound the quicker it got well.

As to the fate of the plates: We have taken them out unnecessarily, finding them clean and as firmly fixed as though they had been driven into wood. We have taken them out because of continued suppuration. We have left them in now for years nor have they excited any untoward symptoms. A woman recently presented herself, who was plated five years ago. She made a fairly prompt and complete recovery. For the last three months she suffered from pain in her leg. She had a varicose ulcer beneath the outer malleolus and a softened area over her plate in the lower third of the tibia. This had been perfectly quiescent in the intervening time. When proper support was given to her dilated veins the pain disappeared, as did the softened area over the plate, and she became completely able-bodied. What proportion of these buried plates, if any, give subsequent trouble remains yet to be proved.

Given the proper tools and appliances and intervention shortly after the injury, the operation is usually not a difficult one. Having performed it, we regard the subsequent external splinting as equally important in the securing of an ultimate satisfactory functional and cosmetic result.

ABSTRACT OF DISCUSSION

ON PAPERS IN THE SYMPOSIUM ON FRACTURES BY DRS. CORWIN, MORRIS, MARTIN, AND BARTLETT AND HEWITT

Dr. Herman E. Pearse, Kansas City, Mo.: I like to operate early. I have been told that it is better to operate late. I find a bone is the crystallization of lines of force, and that the crystallization ceases when the force is not applied, and begins again when it is applied; and so, if two pieces of bone overlap badly, I find rarefaction of bone, and the screw holds better if these cases are plated early.

As to cleanliness, we do not boil long enough; we do not get the skin clean enough; it is useless to paint it with iodin and begin to operate. It is criminal. It seems to me that every one who intends to do this work should at least read and follow the preparatory technic of Mr. Lane, which has been worked out by fifteen years of constant application. Nothing short of that is safe.

I have examined the stock of splints at different surgical instrument houses. They are all useless. They are all less than the minimum weight shown by Dr. Martin to be proper. They are capable of being bent readily between the thumb and finger and they break easily and will not hold. I commend particularly the remarks of Dr. Martin as to the weight, strength, size and material of splints.

I would again urge your attention to the remarks of Dr. Martin in which he speaks of the external application of splints. This external application should be made, but not by any means for so long a time as suggested. In the conduct of the fracture wards of our general hospital of some 300 beds (in an active city like Kansas City, many people are hurt). I have had occasion repeatedly to see most disastrous results from neglecting this. The proper internal splinting of the bone, with the closing of the external wound, gives such a degree of security that the limb is used with entirely too much freedom, unless motion is thoroughly restricted.

I should like to request those very active minds who are so constantly improving the size and the shape and the material of Mr. Lane's splint, and who are in so many ways improving the technic by shortening it, that before any further attempts are made to improve this operation, they prove out the technic as already established. For reproach is being brought on this operation by death from suppuration and by splints that are literally vomited forth when carelessly placed with poor technic. It is worth while to study the technic of the master who has placed this matter where it is, before attempting to improve it on reading his literature.

Dr. Fred B. Lund, Boston: We have treated fractures entirely by external apparatus, and the reason is that until the worth of Lane's plates was proved we had no other method of treating them. I know that for several years, with external apparatus alone, we have been getting a great many bad results; and I, too, was impressed last summer, as Dr. Bartlett was, with seeing the application of Lane's plates. I have tried them and I have succeeded and I have failed; but I sincerely believe that this is the first efficient means of internal splinting that we have had at our command, and that it will prevent a good many malunions and a great many non-unions and much suffering; and if proper attention is paid to the technic and a proper instrumentarium provided, as Dr. Martin and Dr. Bartlett have so wisely insisted, it is going to do a great deal of good.

But nobody should attempt these operations without a study of the methods of the master, Mr. Lane, and providing himself with as complete and perfect a set of instruments as he can get. I think that Dr. Bartlett's traction apparatus is going to be a great help and will greatly lessen the labors of the operator. It substitutes a perfect and powerful mechanism for the imperfect and comparatively weak aid of an assistant.

I have treated thirteen patients since last October, as follows:

(1) An old ununited oblique fracture of the femur in bad position; united in perfect position after plating. (2) A very bad, old, oblique fracture of the upper end of the femur without union four months after the injury; good results from plating four months after operation. (3) A bad transverse fracture of the femur plated, with failure, partly through bad technic and partly through lack of efficient external support. (4) Malposition accompanied by great pain in a transverse fracture of the humerus ten days before in a woman of 60, in which case external apparatus was unsuccessful; perfect result from plating. (5) Ununited fracture of both bones of the forearm four months after injury, with interposition of the muscle between the fragments of the ulna; plating, with very good anatomic and perfect functional result; ulnar plate had to be removed at the end of three weeks. (6) Malposition in fracture of both bones of the forearm, plated; both plates had to be removed at the end of ten days; the result was good. (7) Spiral fracture of the tibia with very poor position; perfect anatomic and functional results from plating. (8) Angular deformity fracture of both bones of the leg, three months after injury. Excellent results from plating.

The prolonged suffering which men get with non-union and malunion makes it worth while to operate on these cases and to use efficient operative means to secure good results. If one takes the trouble to learn how to plate these cases and to do the operation skilfully, the results are more than satisfactory.

Dr. W. Le Moyne Wills, Los Angeles: The greatest advantage of this method is that by the proper application of apparatus you can maintain from the first, perfect apposition of fragments. I operated on a patient by the Lambotte method two years ago. This case was one of epiphyseal fracture of the head of the left humerus. Seven days after the patient was hurt in the mountains, I operated on him. The effect is really not cosmetic; but he does not wear a low-necked dress. He now works in a brass foundry. He has a perfect functional result and I have the plates to prove it.

I have never claimed that this is an ideal method. It is not applicable to all cases. Nobody should do this operation who has not seen Lambotte do it or one equally skilled in use of his apparatus. I would be willing to have it used in case of fracture of my own femur.

When I reported nine cases two years ago at the San Jose meeting of the California State Medical Society, and admitted 25 per cent. of infection, I was severely criticized for that. I operated in this case since I reported those other cases. A man often does not admit that pus is present in his own work, but always sees pus and bad results in other people's work. It is a case of the beam and the mote. I have tried to be honest and report failures. But there is a perfect functional result in the case presented.

Dr. William Fuller, Chicago: It is my belief that practically every fracture, regardless of its location, type or kind, that is difficult to reduce or difficult to hold reduced, should be treated by the open method. On the other hand, fractures without obstacles to reduction, and calling for simple devices or means to retain the fractured ends of the bones in apposition, should be managed by non-operative measures.

I desire, especially, to endorse some of the points brought out in the papers by Drs. Martin and Bartlett. As to the somewhat complicated apparatus which is described and used by Dr. Bartlett for exerting traction on the extremities, it undoubtedly has a place in this work, but I am inclined to the opinion that it would be the exception. Personally, I prefer two strong assistants, besides the one directly concerned in the operation, who can generally make sufficient traction and counter-traction, evert or invert the limb, or employ other desired manipulations at a moment's notice. This leaves the operator and his first assistant free, and removes the necessity of touching anything but the instruments and the field of operation.

The dangers resulting from the open method of treating fractures are, in reality, slight. It has not been shown, to my knowledge, that tissues surrounding broken bones are more susceptible to infection than tissues elsewhere. If the organs within the abdomen were subjected to the same rough handling observed sometimes in operating on fractures; the stomach drawn out with vicious-looking hooks, the gall-bladder ablated without regard for adjacent structures, abdominal surgery would not stand where it does to-day. Tissues covering a fractured bone will heal just as kindly and promptly as abdominal tissues, if treated in the same careful, surgical manner. It is true that at present suppuration more often follows bone operations than other operations, but the reason is plain.

Just a word with reference to the postoperative treatment of fractures: Besides complete hemostasis, and accurate wound closure, nothing is so important in promoting satisfactory progress of the wound as extreme elevation of the extremity. It has a decided beneficial effect in preventing, as well as subduing, infection. The limb does not swell, all edema immediately disappears, the circulation is perfect, and pain is much less severe. This elevation is not accomplished by pillows, but by placing the limb on a well-padded splint, which should be suspended by pulley or otherwise at a right angle to the bed.

Dr. John Rogers, New York: The general impression which we carry away from this discussion is that "bone plating" is the best thing there is. I have had considerable experience with fractures in Bellevue. We have probably the largest collection of fractures there in the city. We have about fifteen or twenty surgeons there—all competent. Directly after this fixation method was first exploited, I think every fracture in the hospital was plated. As a result (I speak for myself as well as the others) we spent considerable time in taking these plates out. But there was one man in the institution who carried through his work with apparent perfect success, and I think he had only one failure out of fifty cases. On studying this result, to see why it was very much better than the results of the rest of us, I found that he had a complete set of these instruments, and kept his fingers entirely out of the wound. The rest of us were using the ordinary hospital appliances which were at hand and they were defective in the bone holder and one or two of the other instruments; and every one of those cases, in which the fracture was handled manually, suppurated, so far as I know. So not enough stress has been laid on the technic of doing these operations. Unless you have every appliance as originally introduced for holding these bones in place, do not try the operation. A little improvement on that bone-holder can be made by constructing it in the form of an obstetric forceps; so that the spread does not have to be so wide when the blades are put in the wound; but all the appliances must be employed or there will be trouble.

Dr. Frank Warner, Columbus, O.: I wish simply to emphasize the importance of position in the treatment of these fractures to prevent strain on the fragments. The surgeon should remember that if it be a fracture at the upper end of the femur, the tendency of the upper fragment is to draw forward and outward; consequently in the treatment of that fracture if plates have been applied or the fragments wired, the thigh should be dressed in flexion so as to avoid strain on the plates or wires. A fracture in this or in any other location, should be handled constantly with the cardinal thought in mind of preventing tension on the plates or wires by dressing the limb in such a position as will mean the least muscular tension on the fragments, for there is a constant tendency for any undue strain to break the wires or loosen the screws. As for example, take a fracture of the femur above the knee-joint; the tendency there, is of course for the gastrocnemius to draw the lower fragment back; so that in this locality the fracture should be treated with the leg flexed. The fractured member should be dressed in the same position as if there were no plate or mechanical appliance used to hold the displaced fragments in apposition. By adhering to this rule, less tension is put on the plates or wires by removing the muscular strain on the fragments. The splints should be constructed with proper windows so that the dressings may be changed without strain being put on the fragments. Or, if it be not practical to use a window, then in changing the dressings the greatest care should be exercised that as little strain be put on the fragments at that time as possible. Otherwise the wires will snap or the screws will become dislodged. A point equally important is that the surgeon himself or some one properly qualified should take care of the patients after operation. It is easy to have this operation made a failure if the surgeon looks after the patients only casually and occasionally, and substantially turns them over to an intern, an extern or a nurse to make the dressings. The success of the result will be in proportion to the subsequent personal attention given the fracture.

Dr. Rexwald Brown, Santa Barbara, Cal.: The kinds of apparatus now in use sometimes have discouraging features. Wires break and Lane's plates and staples frequently pull out or break because of leverage following their application. Lambotte and Parkhill apparatus invite infection, for along the screws are open pathways directly from skin to bone. Buried material only deserves attention: how much foreign material can be buried is open to investigation. The good reports following use of metal half-cylinders—a not inconsiderable foreign body—led me to devise a clamp which seems to have advantages over others used. [Dr. Brown then exhibited his clamp and explained the method of its application, all of which will be described in a paper to be published elsewhere.]

Dr. R. W. Corwin, Pueblo, Colo.: I should suggest that the plates be made thinner and smaller than some that have been devised. All who have seen Mr. Lane's work must appreciate the care he employs, and too much emphasis cannot be laid on this point. Iodin is of value in some cases, notwithstanding our Kansas City friend's views.

THE CLINICAL THERMOMETER AS A POSSIBLE DISSEMINATOR OF SOME COMMUNICABLE DISEASES *

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Until the discovery of the rôle played by insects in the transmission of disease, an air of mystery hovered over the means by which certain diseases were communicated. Probably no disease illustrates this point better than malaria. About twenty years ago, malaria was attributed to the miasmatic emanations which came, during the night, from marshes and swamps. When the anopheles mosquito was discovered to be the host of the malarial parasite, the puzzling atmosphere which had hitherto enveloped malaria vanished, and the etiology of one of our mysteriously transmitted diseases was placed on a scientific basis. We now know that the habits of the anopheles mosquito—so far as biting is concerned—are nocturnal and that marshes, swamps, etc., are its breeding-places.

At one time the fomites theory was regarded as practically the only way in which communicable diseases could be spread. This theory afforded such a simple and easy explanation of the subject that it became deeply rooted in the minds of both the medical profession and the laity. The discovery of bacillus-carriers and the recognition of mild cases (formerly unrecognized) of certain communicable diseases have contributed toward the displacement of the fomites theory, and sanitarians are relegating this theory to a rather minor position in the dissemination of communicable diseases.

The clinical thermometer, however, is an object which must be reckoned with when dealing with the spread of communicable diseases. The etchings on the clinical thermometer form ample harbors for countless bacteria. Very careful washing and drying, after use, will remove most of these organisms, but some will remain and they might as easily be of the pathogenic type as of the harmless variety. If an accurate clinical thermometer could be manufactured with an inner scale instead of the etchings, this source of danger would be partly avoided, but the construction of an accurate thermometer of such a type is, at the present time, mechanically impracticable.

It is a matter of serious regret that most thermometers receive a scant washing and drying after use. The presence of the mercury precludes the use of hot water and consequently a most careful washing becomes imperative, especially where no disinfectant is used. Only too often the thermometer is merely dipped in a glass of water and wiped; or else it is held momentarily under some running water and then dried.

It has long been contended that physicians, from time to time, spread communicable diseases. That their clothing on rare occasions has been responsible cannot be denied, but a more likely agent is the clinical thermometer which is used from person to person without the proper amount of care being taken in regard to its cleaning.

To test the bacteria-carrying power of clinical thermometers, a series of experiments was undertaken. Some thermometers were made, by a very well-known firm, to resemble clinical thermometers in every respect except that they contained no mercury. The mercury was left out so that these dummy thermometers could be easily sterilized by heat during the experiments.

Pure (twenty-four-hour) cultures of *Bacillus prodigiosus* and *B. pyocyaneus*—grown in Dunham's solution—were used to infect the thermometers. The general scheme of the experiments was to rinse the mouth for half a minute with the culture of *B. prodigiosus* and a sterile thermometer was then placed under the tongue. At the end of one minute the thermometer was removed and treated in one of the ways described later. Only one thermometer was infected after each rinsing with a culture. The method of procedure with the culture of *B. pyocyaneus* was identical with that of *B. prodigiosus*. These two organisms were selected as they are easily identified in mixed cultures and it is perfectly obvious that the thermometers must be infected, after use, with many varieties of bacteria found in the mouth. An additional reason for working with *B. pyocyaneus* was its pathogenicity, as it is this type of organism that we are most anxious to learn as much as possible about.

After treatment, the thermometers were dropped in sterile tubes containing Dunham's solution. This medium discourages heavy growths of most organisms and it has an inhibitory effect on oral bacteria as it is practically sugar-free. Those thermometers infected with *B. prodigiosus* were allowed to remain in Dunham's solution for twenty-four hours, at the end of which time a sterile platinum loop was inserted and several loopfuls were transferred to some sterile potatoes. Those thermometers infected with *B. pyocyaneus* were allowed to remain in the solution for four days, or until the green fluorescence of this organism appeared.

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* From the Department of Preventive Medicine and Hygiene, Harvard Medical School.

B. pyocyaneus is occasionally found in the mouth and there are also, at times, three organisms (*B. buccalis fortuitus; Bacillus b* of Vaginal and *Micrococcus doseus*) present in the mouth whose growth on potatoes might be confused with *B. prodigiosus*. In addition, tap-water, once in a while, contains some one of these organisms and consequently it was thought advisable to carry controls through with the infected thermometers. Great care was taken to see that the thermometers were kept free from outside contamination and during their exposure they were handled with sterile thumb-forceps. The controls throughout the entire series were negative.

The particular methods used in caring for the thermometers and the results are tabulated below: (+= growth; —= no growth.)

SERIES I

After infection, the thermometers were rinsed in a glass of water for half a minute.

B. prodigiosus			*B. pyocyaneus*		
Trial 1	24 hours	result +	Trial 1	24 hours	result +
Trial 2	24 hours	result +	Trial 2	24 hours	result +
Trial 3	24 hours	result +	Trial 3	24 hours	result +
Trial 4	24 hours	result +	Trial 4	48 hours	result +

SERIES II

After infection, the thermometers were held under running water for one minute.

B. prodigiosus			*B. pyocyaneus*		
Trial 1	24 hours	result +	Trial 1	48 hours	result +
Trial 2	24 hours	result +	Trial 2	48 hours	result +
Trial 3	24 hours	result +	Trial 3	72 hours	result +
Trial 4	48 hours	result +	Trial 4	72 hours	result +

SERIES III

After infection, the thermometers were rinsed in a glass of water for half a minute and then carefully dried with sterile gauze.

B. prodigiosus			*B. pyocyaneus*		
Trial 1	24 hours	result +	Trial 1	96 hours	result +
Trial 2	24 hours	result +	Trial 2	96 hours	result +
Trial 3	24 hours	result +	Trial 3	72 hours	result +
Trial 4	24 hours	result +	Trial 4	96 hours	result +

SERIES IV

After infection, the thermometers were held under running water for half a minute and then dried with sterile gauze.

B. prodigiosus			*B. pyocyaneus*		
Trial 1	24 hours	result +	Trial 1	96 hours	result +
Trial 2	24 hours	result +	Trial 2	96 hours	result +
Trial 3	24 hours	result +	Trial 3	96 hours	result +
Trial 4	24 hours	result +	Trial 4	96 hours	result +

At this point *B. pyocyaneus* was abandoned for further experimental work with the thermometer as its fluorescence appeared both slowly and faintly.

SERIES V

After infection, the thermometers were kept under running water for three minutes and then wiped dry with sterile gauze.

B. prodigiosus		
Trial 1	24 hours	result +
Trial 2	24 hours	result +
Trial 3	24 hours	result +
Trial 4	24 hours	result +

SERIES VI

After infection, the thermometers were rinsed in running water for half a minute, then dried with sterile gauze. They were then allowed to remain in sterile thermometer cases for half an hour before being placed in Dunham's solution.

B. prodigiosus		
Trial 1	24 hours	result +
Trial 2	96 hours	result —
Trial 3	24 hours	result +
Trial 4	24 hours	result +

SERIES VII

After infection, the thermometers were treated similarly to those in Series 6, except they remained in the sterile thermometer cases for one hour.

B. prodigiosus		
Trial 1	24 hours	result +
Trial 2	24 hours	result +
Trial 3	96 hours	result —
Trial 4	24 hours	result +

SERIES VIII

Identical treatment as Series 6, except the time in the sterile thermometer cases was increased to two hours.

B. prodigiosus		
Trial 1	24 hours	result +
Trial 2	24 hours	result +
Trial 3	48 hours	result +
Trial 4	24 hours	result +

SERIES IX

After infection, the thermometers were put under running water for half a minute, wiped dry with sterile gauze and then placed in sterile thermometer cases for three hours before finally being transferred to Dunham's solution.

B. prodigiosus		
Trial 1	96 hours	result —
Trial 2	24 hours	result +
Trial 3	24 hours	result +
Trial 4	24 hours	result +

In looking over these experiments, it will readily be seen that the dummy thermometers had superior advantages (in being freed from the infecting bacteria) over the thermometers in actual practice. In most communicable diseases the saliva of the patients is thickened and in some diseases it is very tenacious. This condition would naturally give the bacteria a much better opportunity to adhere to the thermometer than where the saliva is thin and normal. The experimental thermometers were held under the tongue for only one minute, whereas, ordinarily in practice, they are allowed to remain from three to five minutes to insure good registration. In addition, the experimental thermometers were always washed immediately on being removed from the mouth, which fact did not allow the saliva to dry and become fixed. On the other hand, it would appear that conditions in actual practice seldom occur similar to those in Series 1. However, where two or more members of one family are ill at the same time, a careless physician might simply rinse his thermometer for a few moments and then use it on the second patient. Series 9 shows that a thermometer can retain live bacteria—capable of being recovered—after the thermometer is fairly well washed, dried and then placed in a case for three hours. Physicians in active practice must use their thermometers at more frequent intervals than this.

There are many diseases which might possibly be transmitted by clinical thermometers. Scarlet fever, diptheria, mumps, measles, typhus fever, cerebrospinal meningitis (epidemic form), acute anterior poliomyelitis, small-pox, whooping-cough, typhoid fever, tonsillitis, coryza, pneumonia, cholera, plague (pneumonic type), grip and some forms of tuberculosis may be mentioned as some of the diseases which might conceivably be disseminated in this manner.

In conclusion, it would seem necessary that physicians should keep their thermometers immersed in a true disinfectant if they would eliminate this source of danger to their patients. Formaldehyd solution would be a most satisfactory substance to use as, in contra-distinction to phenol (carbolic acid), it does no damage to the etchings of the thermometer. Until the city and state health departments give some attention to this subject, everybody who can afford to do so, should provide himself with a reliable clinical thermometer in order to avoid the use of an outside one which might prove to be the origin of some communicable disease.

EMPIRICISM AND PHARMACOLOGY IN THE MANAGEMENT OF POSTOPERATIVE CASES *

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> I never saw a purple cow—
> I never hope to see one;
> But I can tell you anyhow
> I'd rather see than be one.—*Gelett Burgess.*

I've never been a "postoperative case"—and I'd rather see than be one. I am sorry for any one who must be a "case" of any sort, but most sorry for those who in their postoperative experience have had insult added to injury.

It is not long ago that we tied together the thighs of our patients in perineal cases; enforced a strict dorsal decubitus on our celiotomy patients; denied them water for days at a time; forbade them food; refused to abate their sufferings with anodynes for fear of intestinal stasis; purged them unmercifully on the second or third day, and perhaps shot them full of nuclein. Patients have often said to me: "Doctor, I did not mind the operation, but really if I had to be scrubbed as I was, and must go without water for three days as I did, I would rather die than submit again to such an experience."

And while we are somewhat less strenuous to-day, still there is plenty of room for improvement in our after-treatment. These errors in judgment, on our part, are due to excessive solicitude.

In the first place, we starved our patients prior to their operation, fearing to have food in the bowels. The way some people hate their intestinal canals is a shame. One would think, to hear the average doctor talk, that the source of all earthly danger originates in this tube. We starved them so successfully before and after operations that many patients, when subjected to the toxic influence of an anesthetic, developed a fatal acidosis.

Acting on the assumption that postanesthetic vomiting called for an interdiction of food, we heightened the degree of this acid intoxication by further starvation. Or if we did give food, it was of such a nature that it was poorly calculated to combat the development of acid intoxication. We gave beef-tea or malted milk when we should have used carbohydrates, such as baked potatoes, cornstarch pudding or mush. I have often seen postoperative vomiting which had resisted all palliative measures cease immediately after the giving of these substantial starches.

Conti, in the year 1895, first demonstrated the presence of acetone in the urine after general anesthesia, but it has taken fifteen years for this danger-signal to arouse some of the medical profession. Ladd and Osgood[1] reported that, in 173 ether anesthesias by cone, 88.5 per cent. of the patients later showed acetonuria, while of 222 anesthesias by the drop method, 26 per cent. became acetonuric.

The administration of alkaline substances as an antidote is markedly beneficial in this condition, yet this measure is seldom employed or, if used, in such insufficient quantities that no advantage is gained.

We must recognize that the factors at work in the production of the acetone complex are active and large, and oft-repeated doses of basic salts must be absorbed. If sodium bicarbonate be employed, it will require several ounces a day, given by mouth, colon, or hypodermically, to neutralize the acidemia.

After all general anesthesias, it is a good procedure to let the patient drink repeatedly, at intervals, a glass of water containing a dram of sodium bicarbonate. If this is vomited, it serves as a good gastric lavage; if retained, it tends to forestall acid intoxication.

For colon absorption, sodium bicarbonate can be added to the normal saline in a 2 per cent. solution.

For intravenous or subcutaneous injections, 1 per cent. sodium bicarbonate or sodium citrate solutions have been used, but neither is to be recommended except in extreme emergency, because of its hemolytic action on the blood. Food and proctoclysis will usually do all that is necessary to combat acidosis.

Closely associated with the subject of starvation is that of catharsis. It must have been because intestinal stasis is a prominent feature of peritonitis and postoperative ileus that in the past, and partially in the present, we have feared fecal retention. As a consequence, we have brought our most potent charms to work on this innocuous symptom.

The existence of constipation is no more harmful in a postoperative condition than in normal health, and in the normal state its effects are purely mechanical.

It is true that some gas distention or fecal impaction may add to the discomfort of the patient, of course I do not here refer to massive impactions (which in themselves constitute a pathologic lesion); but constipation itself has never been proved a source of intoxication. The experiments of Alonzo Taylor[2] absolutely demolish the contentions of those timorous physicians who so urgently plead for purgation. Taylor has shown that in the absence of a definite infection, no toxic absorption results from intestinal stasis. Where there is an infected bowel, there is always diarrhea.

Auto-intoxication is a state of mind, and the effects of cathartics are largely psychic. Indican is not a criterion of intestinal intoxication. Experiments on dogs, in which the intestine is ligated to simulate constipation and an invasion of bacteria into the portal circulation, with subsequent bacilluria result, are not to be taken as homologous to simple retention of feces.

Strasburger has shown that the bacterial content of the bowel is about 60 per cent. of the dried residue; and that in constipation this is reduced, while in diarrhea or after purgation the percentage of bacteria is increased. For this reason William Mayo refrains from giving any cathartics immediately before operations on the colon.

Not only is the routine administration of cathartics unnecessary, but it is frequently harmful. After the ingestion of calomel it is always possible to detect occult blood in the stools. It is simply another toxic element in the system, and does not inhibit the growth of intestinal bacteria.

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Ladd and Osgood: Ann. Surg., 1907, xlvi, 460.

[2] Taylor in Osler's Mod. Med., i, 273, 274, 276.

Magnesium sulphate is a decided cardiac depressant. It also has the capacity for abstracting needed water from the tissues, something that is exactly contrary to the demands of the occasion.

In fact, it should be our effort to keep the body well saturated with water before an operation. It is also true that the flat bowel of purgation, one whose muscular tone has been depressed by some cathartic, is that which later suffers most from distention.

And probably another demonstration of the paretic effect of chronic purgation is shown by the surgical cases recently reported by Lane, Finney and Mayo—those of colonic atony, redundancy, supposed fecal stasis, and auto-intoxication. Finney is unable to account for this atony; the habitual use of cathartics should be considered.

The bowels should be in a normal state for the average operation. This is best achieved by a restricted diet, low proteids and devoid of uncooked food. Vegetables that have not undergone the sterilizing process of cooking are a distinct source of danger at this time.

An enema on the morning of the operation is all that is necessary to relieve the colon of its contents and establish the most favorable intestinal condition. And on the resumption of feeding, the bowels will often move spontaneously about the fourth day, or if gas distention causes discomfort, or fecal masses in the sigmoid or rectum distress the patient, an enema will relieve the condition quite as thoroughly as a purgative, and will do no damage.

Certainly in postoperative vomiting or ileus or peritonitis, cathartics only add to the intestinal insult. It seems a hard lesson for us to understand, that in the absence of a definite endo-intestinal infection, it is not what is on the inside of the bowel that is doing the damage, but what is on the outside.

And in the use of enemata it is high time that we abandon the colon tube. Soper and many others have confirmed our suspicions; it is a miracle and a definite act of Providence when a colon tube ever enters the colon. It simply coils up in the rectum or sigmoid—in fact, it should be called a rectal dilator.

Fortunately for us, a high enema is not dependent on the necessity of being injected high. Any fluid placed in the rectum will be propelled into the colon by the normal reverse peristalsis. A short rectal tube is just as efficient as a long colon tube is supposed to be.

Where pain exists to a distressing degree after operations, we certainly have little justification for withholding morphin. By lessening pain we lessen shock and the possibility of postoperative ileus.

Yandell Henderson proposes the theory that excessive respiratory excursions produce an exhaustion of bodily carbon dioxid on which the respiratory center depends for stimulation. In the absence of carbon dioxid this center ceases activity, respiration stops, and a pathologic condition results, which he terms "acapnia," the circulation continues until oxygen failure ensues, vasomotor balance is destroyed and a vital crisis exists—this is shock.

Pain, by inducing rapid and full respirations, precipitates this condition—one actually gasps oneself to death.

It is also true that severe pain in any part of the body may produce meteorism. Bloating with gas may be just as marked from gall-stone colic as from strangulated hernia.

Morphin does not favor the production of ileus. It does constipate, but the production of one single cardinal symptom surely does not establish the disease. Used with judgment, morphin is a beneficent agent after operations. It masks nothing from the discerning eye; it fools only the foolish.

And when ileus does follow operations, the question first must be decided, is this mechanical or is it functional? Many patients are treated palliatively who should have their abdomens reopened.

If ileus really exists, its treatment is as varied as its nature is problematic. Certainly cathartics are to be excluded—they *only excite reverse peristalsis.*

Of all the enemata employed, from milk and molasses to kerosene oil, none have proved of constant value. In my own experience, alum—1 dram to the pint—has seemed to be of some service every time it was used.

In the treatment of tympanites and hiccough, the giving of carminatives, such as peppermint, Hoffman's anodyne, turpentine, and oil of wintergreen should never be permitted. These drugs should be relegated to the family medicine closet and never allowed to enter a serious situation of this nature. Their use is irrational and wholly futile.

Gastric lavage affords considerable relief. The hypodermic administration of physostigmin (eserin) has always seemed to me to be of benefit whenever it was used. This drug must be pushed to its physiologic limit.

Whether the demonstrations of Crile or the experiments of Henderson have proved the nature of shock or not, at least they have made it clear that the hypodermic medication usually indulged in at this time is foolish.

To employ nitroglycerin, digitalin, strychnin, ether, whisky, musk and camphorated oil indifferently, with an idea of helping the patient who is suffering from surgical shock, is simply shocking.

The person who indulges in this spectacular therapy has little conception of the physiologic discord with which he is contending, and less notion of the action of his drugs. To attempt to stimulate an already exhausted vasomotor center with an excitant like strychnin or a vasodilator like nitroglycerin is comic medicine.

The only saving feature of the whole performance is the fact that the usual hypodermic tablet is such an insufficient dose that it has little power for harm.

Oxygen, salt solution and epinephrin are the only chemical agents that have a legitimate excuse for being used in this emergency. Other measures, of course, are of service, but these are posture tongue traction, compression of the limbs, and heat.

Salt solution can be used to excess, let it not be forgotten, although Mummery[3] has shown that salt solution has the power of transporting oxygen to the tissues, a state of hydremia should not be produced.

It is better to use conservative measures such as constriction of the extremities, than to flood the organism with water. Thiers has shown the advantage of using a combination of salts, sodium chlorid, calcium chlorid, and potassium chlorid, rather than the usual sodium chlorid solution.

In simple collapse no drugs are indicated. Here the physiologic balance of the vasomotor system will adjust itself, if given time. Where this fall in blood-pressure is due to moderate hemorrhage, it is probably a conservative action tending to produce hemostasis and coagulation.

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[3] Mummery: Lancet, London, 1905, i, 696, 776, 846; ii, 780.

Our forefathers, in performing venesection, nearly always bled the patient until he fainted. I have frequently abstracted a pint or a quart of blood, in conditions that seemed to warrant it, and had my patients faint, lose the radial pulse, sweat, have their heart-sounds become almost inaudible, though the carotids could be seen beating slowly and rhythmically, the respiration unhurried. I have not been alarmed but, giving them due time, watched the return of vascular balance unaided and unimpeded by medication.

There are other conditions, however, arising postoperatively that require chemical therapy. One of the most frequent situations comes from infections of the urinary tract, incident to catheterization.

It is lamentably frequent that one undergoes a surgical operation for one pathologic feature, and develops another in its place. Many women, taking advantage of modern surgery to gain relief from some pelvic disease, come from the hospital with an unrecognized cystitis. Later they have an ascending infection and a pus kidney.

In every case demanding catheterization, hexamethylenamin should be given in sufficient doses, well diluted with water, to act as a prophylactic against this ubiquitous pest.

The experiments of Crowe[4] at Johns Hopkins Hospital, relative to the inhibitory action of hexamethylenamin on infections of the meninges, gall-bladder and serous cavities in general, should be sufficient to prompt the employment of this valuable drug in lesions or operative maneuvers involving the brain, spinal cord, gall-bladder, joints and urinary tract.

Many cases of supposed post-partum infection really are acute renal infections from a latent cystitis, or traumatic ureteritis. This is the frequent and unrecognized cause of puerperal fever.

It would be a highly salutary routine to give hexamethylenamin in every case of confinement, since 20 per cent. of all pregnant women present infected urinary tracts to some degree.

And more might be said on the subject, were it not that I have said too much already, and less would have been said were I wiser than I am.

But the burden of my story is this—that we do a lot of stupid things through thoughtless imitation of other men; that we should try to have a reason for what we do; that we should be governed more by the well-proved experiments of modern research, and that simplicity should be the dominant element in postoperative treatment.

401 Third Street.

Medical Research.—There is no realm, however, in which the deep satisfaction of seeing discovery applied to human service, is more likely to be experienced than in the realm of medical research. Consider how great must have been the joy of Pasteur and of Lister when they realized that the consequences of their investigations must lessen forever plague and pestilence and pain in men, and in the lower animals as well, and must permanently remove much of the blind struggle against mysterious agencies of disease and death. The letter which Walter Reed wrote to his wife on New Year's eve, 1900, at the end of his experiments on the transmission of yellow fever, tells something of the joy of such service—"The prayer that has been mine for twenty years," he concludes, "that I might be permitted in some way or at some time to do something to alleviate human suffering, has been granted! A thousand happy new years." And a thousand happy new years there will be for thousands of men and women and children, because of that one research in Cuba.—Cannon in *Science*.

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[4] Crowe: Bull. Johns Hopkins Hosp., 1908, xix, 109.

A CLINICAL STUDY OF MOBILITY OF THE HEART *

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It has long been known from bedside study, and more recently from the use of the x-rays, that the heart occupies no fixed position in the thorax. The heart is held suspended by its large vessels and is in intimate relation with the walls of the thorax, the mediastinal tissues, the lungs, and the diaphragm. It is evident that the position of the heart may, therefore, be modified by abnormalities of any of the supporting structures, as mediastinal tumors, pleural effusion, pulmonary disease, particularly deformities resulting from tuberculosis, and by abdominal conditions which modify the position of the diaphragm, such as enlargement of the liver, ascites, intra-abdominal growths, and pregnancy. The physiologic factors which modify the position of the heart are, (1) respiration and (2) changes in the position of the body. I have concerned myself only with the latter in this study. Other causes of cardiac displacement will be mentioned only incidentally.

Cherchevsky[1] first called attention to abnormal mobility of the heart. In forty cases studied to determine the effect of changes in position of the body on the apex-beat, he found the mobility to be normally from 1.5 to 3 cm. In nineteen cases it varied from 4 to 7.5 cm.; there was slight mobility in six cases and no movability in fifteen. He considered a range of mobility exceeding 3 cm. as abnormal. In arteriosclerosis, mobility was greatly diminished or absent.

Rumpf[2] concluded from a similar study that the absolute as well as the relative heart-dulness is normally movable about 2 cm. to the left in the left lateral position, and 1.5 cm. to the right in the right lateral position. In many cases the apex-beat remained in the same place, but it often showed a displacement of 2 cm. in a change of posture. Rumpf described five cases, in which the mobility of the heart toward either side amounted to 4 cm., which he designated as "movable heart."

Pick[3] examined 1,000 healthy persons. The majority showed no perceptible difference in the position of the apex-beat and in the percussion sound in different postures of the body. There was slight lateral mobility to the left on assuming a left-sided position in 60 per cent. of the cases, and the apex-beat moved from 1.5 to 2 cm. He described seven cases of movable heart, in which the apex-beat was displaced 4 to 6 cm. to the left.

Hoffman[4] found that the various grades of mobility of the heart were easily recognized by means of x-rays, and concluded that marked movability is of considerable importance to the state of health.

Schmidt[5] concluded that movable heart is often associated with cardiac neurasthenia.

Leusser[6] described several cases of movable heart and considered a displacement of the apex-beat of 3 cm. or more, to the left in the left lateral position, as abnormal.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Cherchevsky: La mobilité du coeur et sa valeur diagnostique, Gaz. méd. de Paris, 1887, p. 629.

[2] Rumpf: Ueber Wanderherz, Verhand. d. 7 Cong. f. Inn. Med., 1888, p. 221.

[3] Pick, A.: Ueber das bewegliche Herz (cor mobile), Wien. klin. Wchnschr., 1889, p. 747.

[4] Hoffman: Verhandl. d. 16 Cong. f. Inn. Med., 1898, p. 216

[5] Schmidt: Deutsch. med. Wchnschr., 1901, No. 16, p. 242.

[6] Leusser: Ueber Wanderherz, München. med. Wchnschr., 1902, No. 26, p. 1095

Rummo,[7] in addition to increased mobility of the heart, described a condition in which there was sagging of the heart from its normal position over the diaphragm, due to relaxation of its supports, and introduced the term to such cases as "cardioptosis." There was no necessary relationship between cardioptosis and enteroptosis. He found both a partial and a complete ptosis, where the heart rests entirely on the diaphragm.

Braun[8] maintains that cardioptosis should be differentiated from movable heart. He does not consider the latter a disease, nor does he think there is justification for attributing neurasthenic heart symptoms to increased mobility of the heart.

Einhorn[9] found cardioptosis in 2.4 per cent. of 926 cases, eighteen men and four women. In the cases of cardioptosis he found it associated with increased mobility of the heart in a number of cases. He regards nervous disturbance of the heart, palpitation, vertigo, and occasionally inability to lie on the left side, as due to cardioptosis. In his opinion, cardioptosis is a distinct clinical entity, equally with enteroptosis.

Hunter[10] described a case of paroxysmal tachycardia and arhythmia with an unduly movable heart. The movability of the heart amounted to 2 inches with change of position from one lateral posture to the other. He was unable to determine that change of posture influenced the paroxysms of tachycardia.

Elliott[11] recently studied the movability of the heart and aorta in health, as evidenced by radiographs taken in unusual positions. That the heart is fairly movable in health and that it may be forced into unusual positions by abnormal physical means is generally understood, but that it is as freely movable as it is, and that its mobility may be made to assist in the interpretation, or may lead to misinterpretation of radiographic findings, unless taken into consideration, has not been sufficiently recognized. A radiograph taken with the patient lying on the right side, respirations at rest, shows that the heart is largely moved to the right of the vertebral column. Similarly, with the patient lying on the left side, respirations at rest, the entire heart shadow is carried to the left, leaving the right border of the vertebral column free and unaffected by the heart-shadow. With the patient lying on the right side, the aorta casts a shadow which extends 4 cm. to the right of the vertebral column, whereas with the patient lying on the left side, the shadow cast by the aorta does not appear to the right of the vertebral edge at all.

Krehl[12] found that the position of the heart changes with that of the body and that the apex-beat is often found to be displaced to the left a few centimeters when the individual lies on the left side. In some cases, however, displacement was so great that the term "wandering heart" was justifiable. In the right lateral position, the apex-beat in healthy individuals either remains unaffected or is displaced only by very little to the right. The change from the horizontal to the vertical position, and vice versa, has no appreciable effect on the apex-beat. Krehl considers that extreme mobility of the heart is due to great loss of intrathoracic fat (starvation cures, tuberculosis) and that in these cases the cardiac displacement causes more or less distress when the patient lies on his side, possibly on account of contraction or kinking of the large vessels.

Determann[13] considered that in nervous persons abnormal mobility of the heart appears to be not uncommon and causes subjective cardiac symptoms. A comparison with movable kidney naturally suggested itself.

Hoffman[14] states that when the position of the diaphragm is high and the heart is abnormally movable so that the larger portion of its area comes in contact with the chest-wall, dilatation may be simulated. He believes that many cases of so-called cardiac dilatation are in reality only examples of this condition. Error can be avoided by testing the mobility of this organ.

Dietlen[15] and Moritz[16] have made extensive orthodiagraphic studies of the size and position of the heart under normal and pathologic conditions. Conner,[17] recently summarizing some of their many interesting facts on this subject, states: 1. With a change from the recumbent to the erect position, there is a distinct sinking of the heart from 2 to 4 cm., corresponding to the lower position of the diaphragm and liver, and that with this the heart assumes a more nearly vertical position while the width of the shadow is considerably lessened. 2. In old age there is regularly a lower level of the diaphragm and a correspondingly lower position of the heart, but in this case the organ, instead of having a more vertical position than usually occupied, was more nearly transverse. The explanation of this is probably to be found in the relaxation of the attachments of the great vessels, by which the heart is held in position. 3. In women the position of the heart is on the average an intercostal space higher than in men. 4. In asthma and emphysema there is a marked sinking of the diaphragm and heart, and to this fact often, more than to the overlapping of the heart by the voluminous lungs, is to be ascribed the great diminution of the heart sounds in the second intercostal space and the low position of cardiac dulness.

The present contribution to this subject is the result of a study of 193 cases. Of this number, forty-nine were apparently healthy. The remaining 144 were private patients or routine cases studied in my wards at the Los Angeles County Hospital.

In studying the movability of the heart in different positions of the patient, the absolute or superficial cardiac dulness was used and determined by feeble percussion. In determining the change of the apex-beat in different postures, the usual point of maximum intensity of the apex-beat was ignored. That point of the heart coming in contact with the palpating finger farthest downward and to the left was considered the true apex.

The conclusions obtained were the result of a second examination, or were controlled by two examiners, so that a fair degree of accuracy may be assumed. In all cases in which there was doubt as to the exact position of the apex-beat or of the border of cardiac dulness, opinion was suspended and these do not enter into the ultimate findings.

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[7] Rummo: Sur la cardioptose, Deutsch. med. Wchnschr. Vereinbeilage, 1900, p. 228.

[8] Braun: Ueber das Wanderherz, Centralbl. f. inn. Med., 1902, No. 35, p. 873.

[9] Einhorn: Cardioptosis and its Association with Floating Livers, Med. Rec., 1903, lxiii, No. 17, p. 647.

[10] Hunter: Case of Paroxysmal Tachycardia and Arhythmia with Unduly Movable Heart, Glasgow Med. Jour., lxix, 367.

[11] Elliott: Movability of the Heart and Aorta in Health as Evidenced by Radiograph Taken in Unusual Positions, Quart. Bull. Northwestern University Med. School, 1911, xii.

[12] Krehl, L.: Diseases of the Myocardium, Nothnagel's Encyclopedia, Am. ed. W. B. Saunders & Company.

[13] Determann: Ueber die Beweglichkeit des Herzens, Deutsch. med. Wchnschr., 1900, No. 15.

[14] Hoffman, A.: Acute Herzdilatation und Cor mobile, Deutsch. med. Wchnschr., 1900, No. 19.

[15] Dietlen: Arch. f. klin. Med., No. 88, p. 55.

[16] Moritz: Methoden der Herzuntersuchung, Deutsch. Klin., iv, pt. 2, No. 15.

[17] Conner: The Clinical Study of Heart Cases, Am. Jour. Med. Sc., June, 1908, p. 790.

One of the most striking facts observed was the discrepancy between the amount of displacement of the apex-beat and that of the cardiac dulness in the change of position of the patient. The change in the apex-beat amounted in some cases to 5 cm. or 6 cm., while that of the cardiac border of dulness was only 2 cm. or 3 cm., and vice versa, so that, as far as our experience teaches us, these two factors are not always as constant as one might expect them to be. This may be due to the fact that in changing the position of the body there occurs a twisting of the heart on its long axis, thus making considerable alteration in that portion of the heart which comes in contact with the chest-wall as the apex-beat.

In the 193 cases there were nine in which there was total displacement of the heart downward, the so-called cardioptosis of Rummo. In seven of these there were clinical signs of atheroma of the aorta. The low position of the apex in these cases on first impression suggested aortic valve disease until the cardioptosis was discovered, which to me emphasizes the importance of invariably testing the mobility and position of the heart before assuming from an abnormal position of the apex-beat that dilatation or hypertrophy is present. Close examination in all of these cases of cardioptosis showed that the heart *en masse* was displaced downward from one to two interspaces.

Of the forty-nine persons in health, consisting largely of high school students, the average displacement of the apex-beat from the dorsal position to the left lateral position was 3.02 cm. to the left, while the right border of cardiac dulness changed only 1.04 cm. The greatest change in the apex-beat was 5 cm. and that of cardiac dulness 8 cm.

The smallest change in the position of the apex-beat was 2 cm. and that of cardiac dulness was in patient M. K., aged 15, apparently well, in whom there was no change in the movability of the heart from the dorsal to the left lateral.

Of the 144 patients selected routinely, suffering from various diseases, the average change in the apex-beat with the patient changing from the right lateral to the left lateral position, was 3.9 cm., the change in cardiac dulness, 2.7 cm. The maximum displacement of the apex-beat was 14 cm. in a case of pulmonary tuberculosis. In another tuberculous subject the displacement amounted to 10.5 cm.; in another, 13.5 cm. In one case of mitral regurgitation the displacement of the apex amounted to 9 cm., in another to 7.5 cm., and in still another to 8.5 cm. In other patients with the same diagnosis, however, the mobility of the apex was normal or diminished, so that the movability of the heart in these conditions was by no means characteristic. The greatest mobility of the cardiac dulness was 12.8 cm., in a case of pulmonary tuberculosis. In a second case of tuberculosis it was 12 cm. In the cases of cardiac lesions, twenty-five in number, excluding six cases of pericarditis with adhesions, the displacement of the apex-beat was 3.6 cm., and the change in the cardiac dulness with change in position of the patient from the right lateral to the left lateral was 3.3 cm. No differences in the displacement of the heart were observed in mitral and in aortic valvular lesions. In the six cases clinically diagnosed as pericarditis, two being confirmed at autopsy, with adhesion of the outer pericardium to surrounding structures, there was fixation of the heart: no change in either the position of the apex-beat or cardiac dulness occurred when the patient changed from the right to the left lateral postures.

The impressions from this study, imperfect as it is, are, first, that the determination of the movability of the heart is of considerable value in the differential diagnosis of cardiac dilatation, and that before assuming that the heart is dilated to the right or to the left, the movability of the heart should always be determined.

Secondly, the immobility or fixation of the heart should always arouse the suspicion of adhesion of the pericardium to neighboring organs. There is probably no serious heart lesion diagnosticated less frequently, clinically, than pericarditis with adhesions. Since systolic retraction of the interspaces and other signs of this condition are so frequently absent, it seems that it would be well to emphasize immobility or fixation of the heart as one of the signs of pericardial adhesions.

My thanks are due Drs. J. W. Nevius and J. W. Bardill for assistance in the production of this paper.

In addition to the authorities already cited, the following may be consulted:

Pottenger: Displacements of the Heart and Diaphragm, Interst. Med. Jour., June, 1911, p. 605.
Groedel: Roentgen Rays in Heart Diagnosis, Interst. Med. Jour., June, 1911, p. 615.
Satterthwaite: Mobility and Malpositions of the Heart, Internat. Clin., ii, ser. 21, p. 55.

THE BACTERIOLOGY OF THE EAR *

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Determining the variety of bacteria present in disease of the ear is an aid to prognosis and warns us of possible complications. Single infections are usually acute, while mixed infections are apt to become chronic. There are very few cases of sinus thrombosis reported as due to pneumococci, but streptococcus sinus thrombosis is of common occurrence. Streptococci also frequently cause brain abscess and may involve important structures by necrosis, or may cause a fatal septicema. Hence, it is important to know whether these organisms are present. Streptococci and pneumococci appear to be the most frequent cause of otitis and mastoiditis. Staphylococci are found in a large percentage of chronic cases, seldom in pure culture.

Most investigators do not consider infection with staphylococci likely to be serious, but operation is necessary in about half the cases of infection with *Streptococcus pyogenes* or *Streptococcus mucosus*. If meningococci are found we know the patient has, or is likely to have, meningitis.

Examination of ear discharges is important in cases infected with diphtheria bacilli in order that proper precautions may be taken to prevent the spread of the disease. Newsholme (1904) reports a case of infection with diphtheria from a case of otorrhea—a pure culture of diphtheria bacilli being obtained from the ear discharge. Graham-Smith (1904) reports five cases, infected with virulent Klebs-Loeffler bacilli from contact with a patient having otorrhea. Several others have obtained virulent diphtheria germs from the ear. Diphtheria-like bacilli are often found in ear cases; a small percentage of these are virulent. Nuttall and Graham-Smith found 10 per cent. virulent. It is necessary to make cultural tests and animal inoculations before making a positive diagnosis of diphtheria.

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

In many reported cases, examination for bacteria was made only after puncture of the ear-drum. It is very difficult to sterilize the external auditory canal and drum-head so as to get uncontaminated cultures from the discharge. Leutert was the first to take cultures at the time of operation. He found streptococci predominating. In chronic cases staphylococci were most numerous. He thinks sinus thrombosis and brain abscess caused almost exclusively by streptococci. Newman and Rutten, in an article on "Etiology of Acute Otitis Media," come to practically the same conclusions. Libman found streptococci predominating. Barnhill and Wales report two-thirds of complications due to streptococci. McKenna says that *Streptococcus mucosus* is frequently found in otitis media, which explains its relative frequency as a cause of acute meningitis. Richardson mentions it as a cause of mastoid disease. Bacon thinks that most cases of acute otitis media are due to the influenza bacillus.

Infection may reach the middle ear through a ruptured drum-head, through the petrosquamosal fissure in the infant, through defects in the tegmen covered over with fibrous tissue, or in fracture of the temporal bone. It may travel along the nerve sheaths or blood-vessels, or the blood may carry infection to the ear. These cases, however, are rare. Microorganisms most frequently reach the ear from the nose and throat through the Eustachian tube. The chief predisposing factor is an inflammation of the nasopharynx or nasopharyngeal obstruction. Acute infection in the middle ear, with inefficient drainage or lack of proper treatment, is one of the most frequent causes of mastoiditis. A lowered vitality, exposure to wet and cold, and also certain constitutional diseases act as predisposing factors.

The question as to whether bacteria are present in the normal mastoid antrum is an important one. If they are present, then some relatively unimportant predisposing cause, as exposure to wet and cold, or loss of vitality from general or local causes, will give these bacteria an opportunity to develop and cause pathologic changes and loss of function, to a greater or less extent, and possibly serious complications.

Many investigators claim that the normal tympanic cavity and mastoid antrum contain pathogenic germs, few in number, which become active under favorable conditions. Others are just as positive that no pathogenic germs are present. The tympanum communicates with the Eustachian tube in front and with the mastoid antrum and cells behind. Since the Eustachian tube admits air to the middle ear, there seems to be no reason why it should not also admit bacteria from the throat.

A number of cases have been reported in which the mastoid was primarily involved. Two to 4 per cent. of typhoid patients have ear complications, the mastoid often being involved. Various organisms are found—staphylococci, streptococci, diplococci, colon bacilli, etc., thus apparently showing that a lowered vitality is the predisposing factor and that bacteria are already present.

In the following twenty-one cases, I have collected the material at the time of operation, made cultures and isolated and identified the bacteria. The material for examination was collected in sterile Petri dishes, and was then transferred to flasks containing 100 c.c. of sterile broth; an agar culture was also made by pouring agar on the material remaining in the Petri dish. These were incubated for twenty-four hours at 37 C. and then agar and gelatin plates were made. The plates were incubated from twenty-four to forty-eight hours. The colonies were then examined—methylene-blue and Gram stains being made, also hanging drops to determine motility, after which cultures were made from the different colonies on the various sugar media, on gelatin, blood-serum, milk, litmus milk, potato, and glucose and lactose bouillon. Where necessary, smears were stained for spores, capsules and flagella.

REPORT OF CASES

Following are given the synopses of twenty-one cases as taken from the history sheets:

Case 1.—N. G., aged 19. September 29, complains of a discharge from the left ear, a roaring sound in the ear, and constant headache. Trouble started four years ago and has gradually become worse. Complains of a slight sore throat. At first, ear discharged only when lying on left side. No pain at that time. Complains of pain only when she catches cold in ear. Discharge night and day. Cannot hear very well with left ear. Whooping-cough when 2 years old and measles at 12. Perfectly well at present except for ear trouble. In left ear bone, conduction is better than air.

Diagnosis.—Chronic discharge from left ear, chronic mastoiditis left.

Operation.—October 1, radical mastoid—left.

Bacteriology.—Staphylococci and an unknown bacillus in left tympanic cavity. Streptococci found in left ear, December 6.

November 19, double suturing of left mastoid wound. Discharged February 9.

October 5, ear began discharging last Thursday and has been discharging ever since. March 8, left ear has been discharging for last two weeks. Sense of fulness in left side of head. Dull ache back of left ear.

Result.—Complete recovery. No improvement in hearing in left ear.

Case 2.—E. T., aged 13. November 3, complains of ear-ache in left ear. Ear has discharged for many years. Some impairment of hearing. Aches only in winter. Trouble starts as soon as cold weather sets in. Discharge and ear-ache whenever patient catches cold. Past history not known, patient being an adopted child.

Examination.—Bone and air conduction equal in left. Drum-head badly scarred.

Diagnosis.—Adenoids and diseased tonsils, chronic otorrhea—left.

Operation.—November 5, left radical mastoid with dura exposed.

Bacteriology.—Streptococci, *Staphylococcus aureus* and *albus*.

Plastic Operation.—November 19.

An autogenous vaccine was prepared and given every seven days in the following doses:

First—	
Streptococci	5,000,000
Staph. alb.	100,000,000
Staph. aureus	100,000,000
Second—	
Streptococci	10,000,000
Staph. alb.	200,000,000
Staph. aureus	200,000,000
Third—	
Streptococci	15,000,000
Staph. alb.	400,000,000
Staph. aureus	400,000,000
Fourth—	
Streptococci	20,000,000
Staph. alb.	600,000,000
Staph. aureus	600,000,000
Fifth—	
Strept.	30,000,000
Staph. alb.	80,000,000
Staph. aureus	800,000,000

Sixth—Same as Fifth.

Result.—Complete recovery; patient gained in weight, and health much improved.

Case 3.—H., schoolboy.

Diagnosis.—July 17, serous catarrh middle ear.

Operation.—Simple mastoid—left.

Bacteriology.—Staphylococci.

Operation.—August 4, adenoids and tonsils removed.

Result.—Complete recovery.

CASE 4.—R. B., aged 2.

Diagnosis.—February 23, acute mastoiditis, both sides.

Operation.—February 25, right simple mastoid.

Bacteriology.—Streptococci. March 6, diphtheria bacilli found in culture from right ear. The diphtheria bacilli were tested and found to be virulent.

Operations.—March 8, left simple mastoid. Sutured right. April 1, sutured left mastoid.

Discharged May 14.

CASE 5.—S. C., aged 22. April 24, complains of a growth on right mastoid. Commenced eight years ago. At times, patient says, it seems to puff up and then go down again. There has been no pain and no discharge. Never dizzy that she can remember. At times the growth is somewhat painful when pressure is made.

Diagnosis.—Mastoiditis.

Operation.—April 24, simple mastoid.

Pathology.—Enlarged glands over mastoid region, tip of mastoid somewhat diseased. Antrum normal. Laboratory report: One of the glands was sectioned and found to be lymphoid tissue, somewhat inflamed. Culture from the antrum showed numerous bacteria, including *Staphylococcus albus.*

Result.—Complete recovery.

CASE 6.—N. N., complains of loss of hearing and discharging ear. About two years ago noticed hearing was affected. The discharge began about six months ago.

Operation.—May 20, radical mastoid—right.

Pathology.—Dura exposed over tympanic cavity. Extensive necrosis along posterior wall.

Bacteriology.—Gram-negative streptococci, *Staphylococcus albus.*

Operation.—June 4, sutured right mastoid.

Result.—Complete recovery, hearing normal.

CASE 7.—F. A., aged 8. September 29. Ear trouble began two years ago. Had scarlet fever with diphtheria following. Had tonsils removed when he had diphtheria. Left ear began to discharge then and has been discharging nearly all the time since. Some better the past year. Had ear-ache at times before discharge began. Had to cleanse ear three or four times a day. Odor offensive. Mastoid region painful once in a while. Right ear discharged for a short time after attack. Hearing bad in left ear.

Examination.—Right ear normal. Left ear, high notes normal. Bone conduction better than air. Whisper, one foot; speaking voice, four feet. Perforation of drum-head, discharge from ear.

Diagnosis.—Chronic otorrhea.

Operation.—September 3, radical mastoid.

Pathology.—Necrotic bone removed from middle fossa exposing dura. Attic filled with granulations. Removed hammer. Found many cells about external auditory canal. Necrotic material next dura and pachymeningitis. Surface of dura inflamed, dura not bulging.

Bacteriology.—*Sarcina aurantiacea* and rhodococcus.

Result.—Complete recovery, no improvement in hearing in left ear.

CASE 8.—L. D., aged 17. October. Trouble began in right ear about a year ago, caused by a bad cold. Had severe pain in ear and mastoid tenderness for about a week. Could not hear well with that ear. There was a discharge for a few days at first. Has not discharged since then but has had much pain in ear and back of ear. For the last month pain has been constantly present.

Examination.—Right ear, high notes normal. Air conduction better than bone. Small hemorrhages on lower half of drum-head. Whisper, 15 feet; speaking voice, 40 feet. Caloric test showed labyrinth functionating. Left ear normal.

Operation.—October 7, simple mastoid—right.

Pathology.—Necrosis below antrum and over angle of lateral sinus. All cells inflamed.

Bacteriology.—Sarcina was the only organism found. Patient completely recovered.

CASE 9.—Patient, aged 26. October 29 had had trouble with right ear for thirteen years, since scarlet fever. For the last three months it has been discharging constantly—pain at times.

Examination.—Perforation in drum-head. Right tube open. Ear might get well with packing and inflation. Right ear, whisper 4 inches; speaking voice 20 inches. Left ear, whisper 15 feet; speaking voice, 35 feet.

November 28. Needs radical mastoid.

Operation.—December 1, right radical mastoid.

Pathology.—Exposed lateral sinus at knee; sinus was thickened and covered with granulations. Necrosis down to facial canal; necrosis above and posteriorly. Polyps in tympanic cavity. Facial nerve unaffected after operation.

Bacteriology.—*Staphylococcus aureus.*

Result.—Complete recovery from operation; no improvement in hearing.

CASE 10.—G. R., aged 10. November 9. Complains of ear trouble. Had tonsillitis four weeks ago, and after a few days his left ear began to discharge. Had ear-ache in left ear during his attack of tonsillitis and just before the ear began to discharge. The discharge stopped last Saturday, when he noticed a swelling behind his ear. Says it is not sore unless he presses it. Hearing somewhat impaired. Does not breathe through his nose at night and only a part of the time during the day. Had measles when 8 years old. Past medical history otherwise negative.

Diagnosis.—Acute mastoiditis.

Operation.—November 11, left simple mastoid. Adenoids removed.

Pathology.—Open sinus leading into antrum. Much pus present. Dura not exposed. Parasinus abscess and external dural abscess. Lateral sinus exposed full length.

Result.—Complete recovery.

Bacteriology.—Streptococci.

CASE 11.—H. J., aged 16. November 18. Hurt in a runaway in March. Unconscious three or four hours. Has had trouble back of ear and in back of head since. Both ears discharged some at times since then. Has had paracentesis of left ear-drum once, and of right, three or four times. This relieves pain for a time. Pain begins in back of head and head throbs. Tenderness over right mastoid extending back almost to occipital protuberance since accident. Had vomiting spell just after accident but none since. Headache all the time.

Examination.—Right and left ears normal.

Diagnosis.—Traumatic mastoiditis or periostitis and osteitis.

Operation.—November 2, right simple mastoid. Removal of necrotic bone posterior to mastoid region, exposing lateral sinus and dura.

Pathology.—Circular area of necrotic bone below lateral sinus three and one-half inches posterior to external auditory canal. Extended to dura. Periosteum black over this area. Periosteum peels off with difficulty. Mastoid antrum and cells normal. Posterior emissary vein one inch posterior to mastoid. Lateral sinus exposed. Dura exposed in right occipital region and appears normal.

Bacteriology.—*Staphylococcus albus* and *aureus* and an unknown bacillus found in mastoid antrum.

December 17, ear began to pain and drum was bulging. Paracentesis done. Found only serum. *Staphylococcus albus* found in discharge. January 12. Paracentesis right drum. February 16, discharged—perfectly well.

CASE 12.—R. F., schoolboy. November 1. Says his ears have discharged ever since he can remember. No other history obtainable.

Examination.—Right ear, yellowish discharge. Perforated drum-head. High notes normal. Bone conduction better than air. Whisper 3 feet; speaking voice 10 feet. Tests show labyrinth functionating. Left ear—yellowish discharge. Perforated drum-head. High notes normal. Bone conduction better than air. Whisper, 15 feet; speaking voice, 30 feet. Tests show labyrinth functionating.

Diagnosis.—Double chronic otorrhea.

Operations.—November 4, right antromeatal. Adenoids removed. November 11, left radical mastoid. November 18, plastic operation.

Pathology.—All mastoid cells necrotic. Lateral sinus not exposed. Pus in attic. Exposed dura. Pachymeningitis.

Bacteriology.—Pneumobacillus.

Pathology.—Tip necrotic. Necrosis anterior and external to facial—very extensive. Much necrosis at opening of Eustachian tube. One arm of incus gone. Malleus in fair shape. Cerebellum exposed just under lateral sinus.

Bacteriology.—Pneumobacillus.

January 2, left ear well; right improving. No improvement in hearing in left; about two-thirds normal in right.

Case 13.—L. C., aged 17. November 26. Left ear discharged when a baby. No discharge after that for six or seven years. Since then, whenever he catches cold the ear discharges. Discharge yellowish, has bad odor. No pain in ear. No pain or swelling over mastoid region. Thinks he cannot hear with this ear.

Examination.—Right ear, air conduction better than bone. High notes cut down. Whisper, 15 feet; speaking voice, 40 feet. Left ear, high notes cut down. Bone conduction better than air. Whisper, 6 inches; speaking voice, 25 feet. Tests showed labyrinth functioning. Perforation of drum the size of pea.

Diagnosis.—Chronic otorrhea.

Operation.—December 2, left radical mastoid.

Pathology.—Complete necrosis of mastoid. Posterior fossa exposed. Exposed dura. Shiny material in antrum.

Bacteriology.—*Staphylococcus aureus* and *Micrococcus tetragenus.*

Patient developed slight facial paralysis December 4, which lasted until December 13. Went home before ear was well. Not known whether he had further trouble.

Case 14.—W. W., aged 17. November 5. Had tonsils removed ten years ago. Two years ago adenoids removed. Since that operation, ears have been discharging almost constantly. Turbinates large and fibrous. Remains of tonsils infected. Left, voice, 8 inches; right, whisper, 10 feet. Advised to have nose repaired first, and at same time have ear treated twice a day. Later, if necessary, mastoid operation.

October 7, acute tonsillitis. October 19, left inferior turbinate trimmed. Has a very high arch with an overhanging bite. Arch should be widened. November 16, right inferior turbinate trimmed. November 26, paracentesis left drum-head.

Operation.—December 19, left meatomastoid. Dura exposed in middle fossa; lateral sinus exposed and whole mastoid necrotic.

Bacteriology.—Colon bacillus and *Bacillus diphtheriæ.*

Result.—Patient well, no further trouble with ear, hearing about one-fourth of normal.

Case 15.—E. G., aged 16, December 13, complains of discharging ears. Puffing noise constantly in right ear. Says hearing is impaired in right ear. Normal in left. When a baby, had discharge from both ears; does not remember how long it lasted. Seven years ago one discharged, does not remember which one or how long it lasted. Last April he had mumps on both sides and two weeks later measles. Ears both began to discharge when the patient had mumps. Left one discharged for two months, right one ever since—occasionally stopping for a day or two at a time. Some pain below right ear and in front of mastoid. No pain or swelling behind ear. Discharge was of a yellowish color, profuse and had an offensive odor. Has been treated for past three months.

Physical Examination.—Pus in external meatus. Drum-head thickened. High notes normal Air conduction better than bone. Whisper, 2 feet; speaking voice, 12 feet. Test showed labyrinth functionating. Adenoids present. Punctured right and left nasal antrum and found a small amount of old pus in left.

Diagnosis.—Mastoiditis, right.

Operation.—December 16, right simple mastoid, also adenoids removed.

Pathology.—Eburnated bone in cortex. Antrum and neighboring cells filled with pus.

Bacteriology—Pneumobacillus.

December 30, taken to isolation ward for erysipelas beginning about 1 inch anterior to right ear. Began December 28. January 2, had a little tenderness over tip of left mastoid. January 3, swelling on left side of neck just below mastoid.

Operation.—January 12, paracentesis—right. Discharged. March 1, comes back because her right ear is discharging—started two weeks ago. Discharged April 7. Ears well, hearing about one-half normal in right ear.

Case 16.—A. P., aged 16. December 15. Was slow in learning to talk. At times hears fairly well. When he takes cold, hearing is affected. To-day hears loud voice at 6 inches only. Sleeps with mouth open.

Examination.—Left drum-head scarred and retracted. Right external canal filled with pus. Right ear, loud voice, 6 inches; lef tear, cannot hear speaking voice. Tonsils and adenoids should be removed. Needs a meatomastoid operation.

Operation.—December 16, radical mastoid.

Bacteriology.—Colon bacillus.

Operation.—December 28, adenoids removed.

Result.—Complete recovery from operation; hearing in right ear about one-half normal.

Case 17.—E. V., aged 15, January 7. Ear trouble began one week ago last Monday. Left ear began to ache, continued to ache for a couple of days, and then began to discharge. Has been discharging ever since and is painful most of the time. Mastoid region swollen after ear began to discharge. Had influenza and sore throat about one week before ear trouble began. Says she had ear-ache a great deal about eight years ago; does not remember which ear or whether it discharged any. Breathes through mouth day and night. When she catches cold has a dull pain over right antrum. Had ulcerated tooth on right side above one or two years ago. Nose constantly discharges—yellowish—no odor.

Physical Examination.—Right ear normal. Left ear, perforation of drum-head with discharge of pus. Drum-head bulging. Tenderness over mastoid. Pain in ear most of the time. High notes normal. Bone conduction better than air.

Diagnosis.—Left otorrhea and mastoiditis.

Operations.—January 7, paracentesis left ear-drum. January 13, left simple mastoid.

Pathology.—Mastoid cells small and all filled with pus: Not much necrosis. Exposed lateral sinus at knee.

Bacteriology.—Streptococci, some of them Gram-negative. *Micrococcus catarrhalis.* Hay bacillus.

Discharged February 15. Ears normal.

Case 18.—M. G., aged 16. January 16. Has had trouble in right ear as long as she can remember. If she catches cold, she has ear-ache. Three or four years ago had ear-ache in right ear a great deal. One year ago, right ear discharged for two or three weeks. Discharge was purulent. Since then no discharge until middle of December, when she had measles. December 26, had a severe ear-ache; discharge began and has continued ever since, stopping at times for a day or two. Ear has been very painful; was swollen over mastoid region a part of the time. Ear and mastoid region have been massaged by an osteopath. Says she had tonsillitis several years ago, also on left side, when she had measles. Has had sore throat occasionally and could open her mouth only one-half inch.

Physical Examination.—Tenderness over mastoid. Pulsating ear-drum. Abscess under temporal muscle. High notes normal. Bone conduction better than air conduction.

Diagnosis.—Mastoiditis—right. Probably abscess under temporal muscle.

Operation.—January 20, right simple mastoid. Paracentesis right ear-drum.

Pathology.—Abscess in temporal muscle. Pus in mastoid antrum. Exposed lateral sinus. Badly necrosed bone extending to dura. Has pachymeningitis and perisinus abscess, with inflammation of walls of sinus. Dead bone lying next to brain and attached to dura. Bone between temporosphenoidal lobe and sinus all rotten. Granulations on lateral sinus. No evidence of leptomeningitis or local brain abscess. Dura not tense.

Bacteriology.—Staphylococci and Gram-negative streptococci.

February 10, sutured right mastoid. February 26, patient came back for examination; was to come twice a week for treatment. April 4, discharged—ear well.

May 11. Has come back for treatment of other ear. Hearing improved.

Case 19.—L. R., aged 19. January 26. Right ear began aching January 25. Discharge began January 26; purulent and bloody. Soreness over mastoid; left ear aching some at present.

Operation.—February 23, simple mastoid, right. Results good.

Pathology.—All mastoid cells necrotic; dura not exposed.

Bacteriology.—*Streptococcus* and *Staphylococcus albus.*

Results.—May 13. Discharged, complete recovery.

Case 20.—Mrs. L., aged 41. February 1. Sunday morning had an ear-ache. Right ear pains; has roaring in ears; hears water running, katydids, etc.

Examination.—Left drum-head retracted; pain on pressure over tip of right mastoid. Right ear, loud voice 4 feet; left, whisper 3 feet.

Diagnosis.—Right ear, abscess with mastoid involvement. Had ulcerated upper molar on right side. Just above second molar on right side is a discharging sinus. Has had discharge from nose before. Exploratory puncture of right antrum; lots of pus.

Diagnosis.—Empyema of antrum of Highmore secondary to necrotic tooth.

Operation.—February 3, right simple mastoid. Infected with gas-producing organism; gas bubbled up when antrum was approached and also when ear-drum was cut. Pain in antrum.

Bacteriology.—*Streptococci, Micrococcus aerogenes capsulatus* and *B. subtilis.*

Operation.—Right radical antrum, middle and third molars removed. With the third there came away a part of the alveolar process, which was necrotic, and left an opening into the antrum. Antrum was filled with polyps.

March 24, canal has been dry for several days.

May 2, mastoid and antrum well. Return for closure of opening between antrum and mouth. Result normal.

Case 21.—M. G. March 3. Last Wednesday had a sore throat and right ear started to ache, is still aching. Has a sense of fullness in right side of head. Mastoid region very tender. Glands at angle of jaw very painful. Six weeks previously had appendicitis and was operated on. A few days later temperature rose to 105 F., and examination showed an abscess at site of operation. Bacteriologic examination of the pus showed streptococci. She recovered from this and was about to be discharged from the hospital when the ear trouble began.

Ear discharged when she was a very small child. Also discharged last year. Tonsils become inflamed whenever she catches cold. Are inflamed now. Cannot see very well; wears glasses. Has headache, photophobia; eyes water a great deal.

Left ear normal. Right ear, drum head bulging and a little red. Slight tenderness at mastoid tip. Bone conduction better than air conduction. High notes normal; whisper, 10 inches; speaking voice, 6 feet.

Operations.—March 3, paracentesis, right ear. March 10, right simple mastoid.

Pathology.—Necrosis of antrum; dura over middle fossa and lateral sinus exposed.' Granulations over middle fossa on dura.

Bacteriology.—Gram-negative streptococci.

This case is particularly interesting from the fact that the ear infection followed so soon after the appendicular abscess and was caused by the same organism. The infection was evidently carried by the blood. Recovery complete.

In two of these cases the mastoid antrum was normal and pathogenic bacteria were found. In one other case not included in this series, I found pathogenic bacteria in the normal antrum.

There were thirteen chronic cases and six acute cases. In seven chronic cases, staphylococci were found. In only two cases were they the only organism found. In three of the chronic cases streptococci were present, but not in pure culture. In two chronic cases pneumobacilli were found in pure culture. Colon bacilli were found in two chronic cases, once in pure culture, once with *Bacillus diphtheriæ.*

Diphtheria bacilli occurred as a secondary infection in one acute case. In the six acute cases streptococci were found, three times in pure culture. In one acute case Gram-negative streptococci were the only germs found. Staphylococci were found in one acute case—not in pure culture. *Micrococcus aerogenes capsulatus, Micrococcus catarrhalis* and *B. subtilis* were found in mixed infections. In many cases no history was obtainable as to the cause of the disease. In two cases ear trouble followed scarlet fever; in one mumps and measles; in one influenza; in one tonsillitis; in one removal of adenoids; in one the disease followed empyema of the antrum of Highmore, secondary to a necrotic tooth. One was made worse by an attack of measles. Five cases were aggravated by taking cold. In most of the chronic cases and in one acute case, necrosis was extensive. It did not appear to be worse where streptococci were present.

SUMMARY AND CONCLUSIONS

1. Bacteria are normally present in the mastoid antrum. This is to be expected since there is a continuous passage from the throat through the Eustachian tube and middle ear to the antrum.
2. Mastoiditis is caused by a variety of organisms. Those found in my cases were *Staphylococcus, Streptococcus, Micrococcus catarrhalis,* diphtheria bacillus, *B. coli communis,* pneumobacillus, *B. aerogenes capsulatus, Micrococcus tetragenus,* sarcina, and *B. subtilis.*
3. In three cases of ear disease Gram-negative streptococci were found.
4. The few patients who were treated with vaccines after operation were remarkedly benefited.

I wish to thank Dr. Dean for the opportunity of studying these cases, also for the suggestions he has given me in my work, and for the use of his private library.

207 North Capitol Street.

New and Nonofficial Remedies

The following additional articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association. Their acceptance has been based largely on evidence supplied by the manufacturer or his agent and in part on investigation made by or under the direction of the Council. Criticisms and corrections are asked for to aid in the revision of the matter before publication in the book "New and Nonofficial Remedies."

The Council desires physicians to understand that the acceptance of an article does not necessarily mean a recommendation, but that, so far as known, it complies with the rules adopted by the Council.

W. A. Puckner, Secretary.

CALCIUM PHENOLSULPHONATE—Calcii phenolsulphonas—Calcium Sulphocarbolate.—Calcium 1,3-phenolsulphonate. $[C_6H_4(OH)SO_3]_2Ca=Ca(C_6H_5O_4S)_2$ is the neutral calcium salt of para-phenolsulphonic acid.

Calcium phenolsulphonate occurs as a white, or faintly pinkish-white, almost odorless powder, having an astringent, bitter taste. At high temperatures the salt chars, emits inflammable vapors having an odor of phenol, and finally leaves a residue of calcium sulphate.

The salt is easily soluble in water and in alcohol.

An aqueous solution of the salt (1-100) should assume a pale violet color on the addition of ferric chloride test solution.

If 5 Gm. of the salt be percolated with 25 Cc. of ether in a small filter, the solvent allowed to evaporate spontaneously and the residue, if any, dissolved in 5 Cc. of water, the solution should

Operations.—November 4, right antromeatal. Adenoids removed. November 11, left radical mastoid. November 18, plastic operation.

Pathology.—All mastoid cells necrotic. Lateral sinus not exposed. Pus in attic. Exposed dura. Pachymeningitis.

Bacteriology.—Pneumobacillus.

Pathology.—Tip necrotic. Necrosis anterior and external to facial—very extensive. Much necrosis at opening of Eustachian tube. One arm of incus gone. Malleus in fair shape. Cerebellum exposed just under lateral sinus.

Bacteriology.—Pneumobacillus.

January 2, left ear well; right improving. No improvement in hearing in left; about two-thirds normal in right.

CASE 13.—L. C., aged 17. November 26. Left ear discharged when a baby. No discharge after that for six or seven years. Since then, whenever he catches cold the ear discharges. Discharge yellowish, has bad odor. No pain in ear. No pain or swelling over mastoid region. Thinks he cannot hear with this ear.

Examination.—Right ear, air conduction better than bone. High notes cut down. Whisper, 15 feet; speaking voice, 40 feet. Left ear, high notes cut down. Bone conduction better than air. Whisper, 6 inches; speaking voice, 25 feet. Tests showed labyrinth functioning. Perforation of drum the size of pea.

Diagnosis.—Chronic otorrhea.

Operation.—December 2, left radical mastoid.

Pathology.—Complete necrosis of mastoid. Posterior fossa exposed. Exposed dura. Shiny material in antrum.

Bacteriology.—*Staphylococcus aureus* and *Micrococcus tetragenus.*

Patient developed slight facial paralysis December 4, which lasted until December 13. Went home before ear was well. Not known whether he had further trouble.

CASE 14.—W. W., aged 17. November 5. Had tonsils removed ten years ago. Two years ago adenoids removed. Since that operation, ears have been discharging almost constantly. Turbinates large and fibrous. Remains of tonsils infected. Left, voice, 8 inches; right, whisper, 10 feet. Advised to have nose repaired first, and at same time have ear treated twice a day. Later, if necessary, mastoid operation.

October 7, acute tonsillitis. October 19, left inferior turbinate trimmed. Has a very high arch with an overhanging bite. Arch should be widened. November 16, right inferior turbinate trimmed. November 26, paracentesis left drum-head.

Operation.—December 19, left meatomastoid. Dura exposed in middle fossa; lateral sinus exposed and whole mastoid necrotic.

Bacteriology.—Colon bacillus and *Bacillus diphtheriæ.*

Result.—Patient well, no further trouble with ear, hearing about one-fourth of normal.

CASE 15.—E. G., aged 16. December 13, complains of discharging ears. Puffing noise constantly in right ear. Says hearing is impaired in right ear. Normal in left. When a baby, had discharge from both ears; does not remember how long it lasted. Seven years ago one discharged, does not remember which one or how long it lasted. Last April he had mumps on both sides and two weeks later measles. Ears both began to discharge when the patient had mumps. Left one discharged for two months, right one ever since—occasionally stopping for a day or two at a time. Some pain below right ear and in front of mastoid. No pain or swelling behind ear. Discharge was of a yellowish color, profuse and had an offensive odor. Has been treated for past three months.

Physical Examination.—Pus in external meatus. Drum-head thickened. High notes normal Air conduction better than bone. Whisper, 2 feet; speaking voice, 12 feet. Test showed labyrinth functionating. Adenoids present. Punctured right and left nasal antrum and found a small amount of old pus in left.

Diagnosis.—Mastoiditis, right.

Operation.—December 16, right simple mastoid, also adenoids removed.

Pathology.—Eburnated bone in cortex. Antrum and neighboring cells filled with pus.

Bacteriology—Pneumobacillus.

December 30, taken to isolation ward for erysipelas beginning about 1 inch anterior to right ear. Began December 28. January 2, had a little tenderness over tip of left mastoid. January 3, swelling on left side of neck just below mastoid.

Operation.—January 12, paracentesis—right. Discharged. March 1, comes back because her right ear is discharging—started two weeks ago. Discharged April 7. Ears well, hearing about one-half normal in right ear.

CASE 16.—A. P., aged 16. December 15. Was slow in learning to talk. At times hears fairly well. When he takes cold, hearing is affected. To-day hears loud voice at 6 inches only. Sleeps with mouth open.

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Bacteriology.—Colon bacillus.

Operation.—December 28, adenoids removed.

Result.—Complete recovery from operation; hearing in right ear about one-half normal.

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Diagnosis.—Left otorrhea and mastoiditis.

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Pathology.—Mastoid cells small and all filled with pus: Not much necrosis. Exposed lateral sinus at knee.

Bacteriology.—Streptococci, some of them Gram-negative. *Micrococcus catarrhalis.* Hay bacillus.

Discharged February 15. Ears normal.

CASE 18.—M. G., aged 16. January 16. Has had trouble in right ear as long as she can remember. If she catches cold, she has ear-ache. Three or four years ago had ear-ache in right ear a great deal. One year ago, right ear discharged for two or three weeks. Discharge was purulent. Since then no discharge until middle of December, when she had measles. December 26, had a severe ear-ache; discharge began and has continued ever since, stopping at times for a day or two. Ear has been very painful; was swollen over mastoid region a part of the time. Ear and mastoid region have been massaged by an osteopath. Says she had tonsillitis several years ago, also on left side, when she had measles. Has had sore throat occasionally and could open her mouth only one-half inch.

Physical Examination.—Tenderness over mastoid. Pulsating ear-drum. Abscess under temporal muscle. High notes normal. Bone conduction better than air conduction.

Diagnosis.—Mastoiditis—right. Probably abscess under temporal muscle.

Operation.—January 20, right simple mastoid. Paracentesis right ear-drum.

Pathology.—Abscess in temporal muscle. Pus in mastoid antrum. Exposed lateral sinus. Badly necrosed bone extending to dura. Has pachymeningitis and perisinus abscess, with inflammation of walls of sinus. Dead bone lying next to brain and attached to dura. Bone between temporosphenoidal lobe and sinus all rotten. Granulations on lateral sinus. No evidence of leptomeningitis or local brain abscess. Dura not tense.

Bacteriology.—Staphylococci and Gram-negative streptococci.

February 10, sutured right mastoid. February 26, patient came back for examination; was to come twice a week for treatment. April 4, discharged—ear well.

May 11. Has come back for treatment of other ear. Hearing improved.

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Pathology.—All mastoid cells necrotic; dura not exposed.

Bacteriology.—*Streptococcus* and *Staphylococcus albus.*

Results.—May 13. Discharged, complete recovery.

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Left ear normal. Right ear, drum head bulging and a little red. Slight tenderness at mastoid tip. Bone conduction better than air conduction. High notes normal; whisper, 10 inches; speaking voice, 6 feet.

Operations.—March 3, paracentesis, right ear. March 10, right simple mastoid.

Pathology.—Necrosis of antrum; dura over middle fossa and lateral sinus exposed. Granulations over middle fossa on dura.

Bacteriology.—Gram-negative streptococci.

This case is particularly interesting from the fact that the ear infection followed so soon after the appendicular abscess and was caused by the same organism. The infection was evidently carried by the blood. Recovery complete.

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207 North Capitol Street.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

CALCIUM PHENOLSULPHONATE—Calcii phenolsulphonas—Calcium Sulphocarbolate.—Calcium 1,3-phenolsulphonate. $[C_6H_4(OH)SO_3]_2Ca = Ca(C_6H_5O_4S)_2$ is the neutral calcium salt of para-phenolsulphonic acid.

Calcium phenolsulphonate occurs as a white, or faintly pinkish-white, almost odorless powder, having an astringent, bitter taste. At high temperatures the salt chars, emits inflammable vapors having an odor of phenol, and finally leaves a residue of calcium sulphate.

The salt is easily soluble in water and in alcohol.

An aqueous solution of the salt (1-100) should assume a pale violet color on the addition of ferric chloride test solution.

If 5 Gm. of the salt be percolated with 25 Cc. of ether in a small filter, the solvent allowed to evaporate spontaneously and the residue, if any, dissolved in 5 Cc. of water, the solution should not give a white precipitate upon the addition of a few drops of bromine test solution (absence of *phenol*).

An aqueous solution of the salt (1-100) should not respond to the time-limit test for *heavy metals* prescribed by the United States Pharmacopeia, Eighth Revision.

An aqueous solution of the salt (1-100) acidified with a few drops of diluted hydrochloric acid should give no immediate turbidity after addition of 1 Cc. of barium chloride test solution (limit of *sulphate*).

If dried to constant weight at 100° C. (212° F.), the salt should not lose more than 2 per cent. of its weight (absence of an undue amount of *water*).

If from 0.5 to 1 Gm. of the salt be dried to constant weight at 100° C. (212° F.) and the dried substance be slowly ignited in an uncovered crucible (care being taken that the contents be freely exposed to the air) until the weight becomes constant, the residue should amount to not less than 35.0 per cent. nor more than 36.0 per cent. of the weight of the dried substance.

Actions and Uses.—Calcium phenolsulphonate has the actions and uses of other phenolsulphonates (sulphocarbolates). It is believed by some to be an intestinal antiseptic, but most pharmacologists regard the antiseptic powers of the phenolsulphonates as feeble.

It may be prescribed in diarrhea and in diseased conditions in which it is believed that there is an undue amount of intestinal putrefaction.

Dosage.—The average dose is 0.5 Gm. (8 grains).

Non-Proprietary Preparations:

Calcium Phenolsulphonate, M. C. W.
Manufactured by the Mallinckrodt Chemical Works, St. Louis.
Calcium phenolsulphonate, Abbott
Manufactured by the Abbott Alkaloidal Co., Chicago.

Therapeutics

PRESCRIPTION-WRITING

CHAPTER V.—DOSAGE

The dose of a drug should be based on the age, weight and individuality of the patient, and the necessity for a strong action of the drug.

The frequency of the dose is determined by the results obtained, by the length of time it takes the drug to be eliminated or cease its action, and the possibility of its causing a cumulative effect.

While age is an all-important element in the determination of the dose, the weight, unless in the obese, is the most important element, except in the case of narcotics given to children. Children have more central nervous system as compared to their weight than adults, and therefore are more profoundly affected by drugs which act on the brain, than are adults. In other words, a given dose of a narcotic, especially of the opium series, for an adult must be more reduced in size for a young child than any table of reduction computed by age or weight would determine.

The best simple rule of dosage by age is the following:

At 20 years, the adult dose.
At 10 years, ½ the age, ½ the dose.
At 5 years, ¼ the age, ¼ the dose.
At 2½ years, ⅛ the age, ⅛ the dose.
At 1 year, 1/12 the dose.

Children whose ages are between the ones here specified may readily be prescribed doses a little more or less than the dose determined by the age nearest theirs in the table.

The relation of size and weight to the dose is all-important. A large child of 2 years should certainly receive a larger dose than a weakly, small child of the same age. Also a small adult of 20 should receive less than a large muscular individual of the same age. The blood of an adult represents about one-thirteenth of his total weight. This is not true of children or of the obese. Hence the dose of an obese individual may be even less than if his weight were normal.

The following are the average weights for normal adult males. It should be remembered that females up to the age of 45 or 50 generally weigh less than males; also that a range of from 20 to 25 pounds above or below the average weight, the patient's general condition being good, is not necessarily considered a weight too high or too low for acceptance as an insurance risk. Above or below this range of 20 to 25 pounds from the average is generally considered over-weight and under-weight, and the acceptance of such an individual for insurance becomes questionable.

TABLE OF AVERAGE WEIGHT TO HEIGHT AT DIFFERENT AGES

	Year							
Ft. In.	15–24	25–29	30–34	35–39	40–44	45–49	50–54	55–60
5–0	120	125	128	131	133	134	134	134
5–1	122	126	129	131	134	136	136	136
5–2	124	128	131	133	136	138	138	138
5–3	127	131	134	136	139	141	141	141
5–4	131	135	138	140	143	144	145	145
5–5	134	138	141	143	146	147	149	149
5–6	138	142	145	147	150	151	153	153
5–7	142	147	150	152	155	156	158	158
5–8	146	151	154	157	160	161	163	163
5–9	150	155	159	162	165	166	167	168
5–10	154	159	164	167	170	171	172	173
5–11	159	164	169	173	175	177	177	178
6–0	165	170	175	179	180	183	182	183
6–1	170	177	181	185	186	189	188	189
6–2	176	184	188	192	194	196	194	194
6–3	181	190	195	200	203	204	201	198

In determining the dose it is most important to consider whether or not the patient has any exceptional susceptibility to the given drug. When an idiosyncrasy or abnormal susceptibility to a certain drug or to drugs of a certain class is known, the drugs causing it should, if possible, not be administered. That peculiar phenomenon, now known as anaphylaxis, is one which also should be taken into account in this connection.

Sometimes such undesired action of a drug occurs with the first dose only, notably in the case of quinin, and a tolerance to the drug is, after this first dose, temporarily acquired.

Another idiosyncrasy of a patient may represent a *tolerance* to a drug such that large doses must be given to produce any effect. This tolerance may be natural or acquired by previous use of the drug.

Still other very important predispositions of a patient are caused by the disease affecting him, by the condition of his digestive and absorptive system, and by the condition of his eliminative organs. The disease present may create a tolerance or an increased susceptibility to a drug. Slow absorptive powers may render the action of the drug almost impossible or allow accumulation of dangerous amounts of the drug (under which conditions the drug should be given hypodermatically, if it is needed). Slow or retarded elimination due to defective eliminative organs will allow cumulative action of many drugs.

The drugs which are most frequently found unexpectedly to cause undesirable or even serious symptoms in susceptible individuals are quinin, salicylates, atropin-containing drugs, iodin-containing drugs, and opium and its alkaloids.

The diseased conditions that most seriously modify (lessen) the dose of a drug are nephritis and cirrhosis of the liver.

A condition of shock precludes immediate absorption from the stomach, hence such a condition must be combated, if by drugs, hypodermatically.

Frequency of the Dose

It should be carefully learned how long, ordinarily, it takes a given dose of a drug to act, and how long before it is mostly eliminated. This determines the frequency of the dose. Also some drugs are eliminated so slowly that they tend to accumulate in the system or are deposited in the various organs so that medication may occur by autolytic action some days and even weeks after the cessation of the administration of the drug.

A few of the rapidly acting drugs are:

Alcohol
Ammonia
Camphor
Caffein
Chloral
Iodids
Salicylates
Strophanthin
Strychnin

These act in a few minutes to an hour or so, hence the intervals at which they may be given range from every hour to every three hours, or three times a day, according to the drug.

A few of the slowly acting drugs are:

Arsenic
Atropin
Bromids
Digitalis
Mercury
Quinin
Synthetic antipyretics
Synthetic hypnotics
Thyroid

These act in from several hours to twenty, hence should be given once or twice a day, according to the drug.

A few of the drugs that tend to accumulate in the system are:

Arsenic
Atropin
Bromids
Digitalis
Mercury
Strychnin

Many drugs cause eruption on the skin either due to irritation of the stomach and duodenum or to their being more or less excreted by the skin and irritating the glands during such excretion, or they may cause flushing of the skin.

Examples of drugs causing the first kind of irritation are: copaiba, chloral, opium, quinin, salicylates, synthetic compounds, volatile oils; drugs of the second type are arsenic, bromids and iodids: those of the third type are antitoxin, atropin and thyroid.

It should always be remembered that some drugs are excreted into the milk; hence if the mother is nursing her baby, some drugs should be avoided, and some given only infrequently; or on the other hand, the baby may be medicated through the mother.

Generally speaking most narcotics (opium, bromids, etc.); most so-called alteratives (arsenic, mercury, iodids, thyroid); most cathartics; and quinin are excreted by the milk.

CHAPTER VI.—METHODS OF ADMINISTERING DRUGS

Drugs and serums are more than occasionally administered intravenously, but as the technic requires skill, most perfect asepsis, and should require the enforcement of at least twenty-four hours of absolute rest, this method is not likely to be frequently resorted to. Moreover it seems to be a fact that, when a drug or serum is injected intramuscularly, the rate of absorption and activity of a substance is almost as rapid as when it is given intravenously, and the danger of accidents is much less.

The hypodermatic or subcutaneous method is of very great value in all emergencies, but should not be used too frequently. Of course the most frequent need for such medication is caused by pain, which must be combated by morphin or its equivalent, and the danger of acquiring a habit is greater when the drug is used hypodermatically than when it is given in any other way.

Of course the most frequent method of giving a drug is by the mouth, either in liquid, powder, pill, capsule or tablet. A drug will surely act more quickly if given in liquid solution, and more quickly on an empty stomach. If it is disagreeable, however, it should be given in capsule if the character and dose of the drug will allow it. Also if a drug is irritant, it should not be given on an empty stomach. A disagreeable liquid drug should not be combined with a syrup, which does nothing but prolong the taste and upset the stomach, but should be given in plain water to be followed by any kind of taste the patient prefers, such as orange, lemon, or by a peppermint or wintergreen candy for example. Or the liquid may be given in a sour mixture as lemonade or syrup of citric acid and water, or it may be given in a mineral or carbonated water. A powder may be given in milk or in an effervescing water.

Capsules are the nicest means of giving drugs disagreeable in taste and small in dose. The contents of a capsule should be dry for rapid solution, the principal advantage of a capsule over a pill. If rapid action is desired, or if it is feared that the capsule, slowly dissolving on a small part of the mucous membrane of the stomach will irritate the membrane, the capsule may be uncapped at the moment of swallowing, and the result is the same in the stomach as though the drug had been taken in powder. Alcohol in any form in the stomach will retard the solution of a capsule. Pills are not so much used as before the capsule became so popular. The solution and absorption of a pill must be slow, unless it contains some particles of a substance that swells with water, as starch. Sugar, chocolate, or gelatin-coated pills and tablets make the solution still slower, though in the case of drugs to act on the intestine this may be of advantage.

The much-used tablet, compressed or triturate, doubtless renders much medication valueless, and perhaps, fortunately, harmless. The speed of solution of most tablets on the market is problematical, hence if the action of a tablet is immediately desired it should be predissolved, or at least crushed by the teeth before swallowing. All antipyretic coal-tar tablets should be crushed before swallowing and then a good drink of water taken with them. It should not be forgotten that anything that may bite or irritate the membrane of the mouth will do the same to the mucous membrane of the stomach. Hence bromid tablets should never be taken undissolved. Potassium chlorate tablets dissolved in the mouth or swallowed are dangerous. Potassium chlorate solutions for the mouth and throat are valuable, but there is no justification for ever taking potassium chlorate into the stomach or into the system.

A very soluble tablet dissolved and absorbed from the mouth will give almost as rapid action as when given hypodermatically.

The rectum absorbs drugs given by means of suppositories or injections nearly and sometimes quite as rapidly as does the stomach. But sedatives and some laxatives only are ever administered by suppositories for systemic effect.

A few drugs are given endermically, but except in the case of mercury the method is uncertain.

Mucous membranes may be treated by douching, injection, insufflation, and those of the air passages by inhalation. Some drugs are absorbed by all of these methods, and if poisonous drugs are used, the possibility of too great an absorption must always be kept in remembrance.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

535 Dearborn Avenue . . . Chicago, Ill.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

[*For other information see second page following reading matter*]

SATURDAY, OCTOBER 21, 1911

THE ALLEGED HYGIENIC VALUE OF OZONE

We have already on several occasions discussed the use of ozone for the purification of drinking-water and have pointed out some of the reasons why under present conditions this is of limited application. There is no doubt that ozone is an effective sterilizing agent when added to water containing little organic matter, or that its use appeals to the popular prejudice in favor of a substance that leaves behind it no foreign chemical residue in the water treated. At present, however, the controlling factor in the installation of an ozonizing plant is its relative cost compared with other equally effective methods of water purification.

Attempts are now being made to extend the hygienic—and the commercial—uses of ozone still further. It must be admitted that in some directions at least these attempts are not justified by any evidence at hand. As a gaseous disinfectant of rooms and apartments ozone has never been widely employed, although a few experiments have seemed to indicate that it might be used for this purpose. It must be remembered that the ordinary method of production of ozone by electrical discharges at high tension rarely if ever yields a pure gas, but that the ozone is mixed with other gases, especially hydrogen peroxid and the oxids of nitrogen. Since these gases possess germicidal power and since the actual amount of ozone itself that is produced undoubtedly varies greatly with different machines and under different conditions and is not readily and accurately determinable, it is difficult to carry out conclusive experiments. Indeed, investigators generally recognize that some of the effects commonly attributed to ozone are due to the peroxids of nitrogen and hydrogen.

In view of this uncertainty regarding the more easily measurable effects of ozone it behooves us to look conservatively on the claims sometimes made for ozone as a substance which, inhaled in small quantities, is beneficial to health. The recorded evidence on which such a claim is based is extremely slender. Indeed, there is reason for believing that when the percentage of ozone in the air goes beyond a certain point, not only irritation of the respiratory tract is produced, but also other injurious effects. If the experiments of Schultz on chronic ozone poisoning are open to the objection that the effects observed were due to the nitrogen oxids mixed with the ozone rather than to the ozone itself, there is ground for reflection in the fact that such nitrogen compounds are always formed in greater or less abundance by the ordinary methods for producing ozone unless special care be taken to dry the air on which the ozonizer acts. In other words, untoward physiologic effects have been observed in animals treated with ozone and the mixture of gases with which ozone is practically always associated, and no physiologic benefit has been indubitably demonstrated.

Such facts justify hesitation in deciding on the installation of those forms of ozone-generating apparatus recommended for "purifying the air." There seems to be no doubt that disagreeable odors may be destroyed or neutralized by the gases formed by such machines, but one may be allowed to be skeptical as to the "sterilizing" of the air through their action. Certainly the benefits to health to be expected from the inhalation of varying and unknown quantities of ozone are purely conjectural. There is after all no more reason for accepting without investigation the statements of manufacturers about the hygienic properties of the machines they manufacture than for believing implicitly the assertions of nostrum-promoters.

THE PARATHYROIDS AND CALCIUM METABOLISM

It may be regarded as established beyond reasonable doubt that a relationship exists between tetany and removal of the parathyroid glands. MacCallum and Voegtlin[1] have suggested that this relationship may be due to the influence of the parathyroids on calcium metabolism. For they found that removal of the parathyroids was followed by increased calcium excretion with diminution of the calcium content of blood and brain, and that the tetany following extirpation of the glands could be avoided by the injection of calcium salts. This relationship between the parathyroids and calcium metabolism has recently received striking confirmation by Erdheim[2] and several co-workers, who have studied the effects of parathyroidectomy in white rats. In rodents the incisor teeth present the peculiarity of constant growth, resembling skeletal bone in this respect, so that they afford remarkable opportunities for the study of the details of calcium deposition. During a series of experiments on the relationship between parathyroid extirpation and tetany, Erdheim noticed that the incisor teeth of the rats became liable to repeated fracture, and a careful study of this phenomenon has led to several interesting observations. In the normal incisor tooth of the rat, the dentin forms the principal portion; a conical pulp cavity pierces this longitudinally, and a narrow zone of dentin adjoining this cavity is normally undergoing calcification, while the greater part has already received its complete deposit of calcium.

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[1] MacCallum and Voegtlin: Jour. Exper. Med., 1909, xi, 118.

[2] Erdheim: Frankfurt. Ztsch. f. Path., 1911, vii, 178.

On removal of the parathyroids, it was found that calcification of the dentin at once ceased more or less completely; the portion already hardened underwent no change, but as the effects of use wore down this older part, the new uncalcified dentin taking its place lacked strength, and fractures followed. Imperfections in the enamel deposit also occurred, though at a later period than the alterations in the dentin. By regulating the time between extirpation of the glands and examination of the tooth, all transitional stages between the normal tooth and one almost completely decalcified could be obtained.

Still more interesting results followed the transplantation of the parathyroids. Owing to the great difficulty of getting successful growth of the transplanted organs in a second animal, the earlier work was limited to the transference of the glands from the neck to the abdominal wall. This was successfully accomplished in nine cases, and in each of these there was found in the incisor teeth a zone of uncalcified dentin, corresponding to the period of parathyroid quiescence, interposed between two layers of normal dentin. Transplantation of the gland from one animal to another in which the parathyroids had been previously extirpated was successful in only one instance. In this animal, some time before the examination of the teeth, the transplanted glands were also removed. Corresponding to the period of removal of the animal's own organs, there occurred a zone of uncalcified dentin. Another partially calcified zone indicated the period of activity of the transplanted glands, and a third zone, completely lacking in calcium salts, recorded that of the second removal.

In the face of such evidence, there can be little doubt of the influence of the parathyroids on calcium metabolism. Additional proof has been afforded in the case of skeletal bones by Erdheim and by Canal, who have both shown that under the influence of removal of the parathyroids callus formation is greatly retarded, owing almost entirely to deficient calcium deposition.

Erdheim does not hesitate to call attention to the similarity between his findings and those in rickets and osteomalacia. As additional links between the two processes he cites the relative frequency of hypertrophy of the parathyroids in osteomalacia, and the almost exact similarity in the changes of rachitic teeth and those of his animals. Although a connection between tetany and rickets has long been noted, it would as yet be premature to ascribe all cases of both unreservedly to lesions of the parathyroids. It has been found by Badt and Klose[3] that changes analogous to those of rickets and osteomalacia occur in young dogs after removal of the thymus, so that at present the pathologic basis of these diseases cannot be stated with any degree of certainty. However, it is possible that as complicated a process as the calcium metabolism of the body may be influenced by any one of several factors, and that the similar clinical findings may have various sources, as for instance is the case with experimental diabetes. Apparently, however, the problem of the etiology of rickets and osteomalacia is in a fair way toward being made clear, and its ultimate solution should merely be a matter of farther work along lines already indicated.

SANITARY DISPOSAL OF EXCRETA WITHOUT SEWERS

Farmers' Bulletin 463, entitled "The Sanitary Privy," recently issued by the Department of Agriculture, is of interest not only on account of its contents but also because it shows useful cooperation between two federal departments for the promotion of public health. The pamphlet was prepared by Drs. Stiles and Lumsden of the Public Health and Marine-Hospital Service, and embodies material previously published in bulletins of that service, reference to which has already been made in THE JOURNAL.[1] Fortunately it is now published and distributed by the Department of Agriculture. We say fortunately, because the latter arrangement secures a wider circulation, since Congress, we believe, has authorized the printing and reprinting of farmers' bulletins up to 1,000,000 copies, whereas it limits the publications of the Public Health and Marine-Hospital Service to one or two editions of 5,000 each.

Drs. Stiles and Lumsden for some years have been making a study of certain diseases which are particularly incident to farm life, and in a preliminary statement Secretary Wilson appeals to the American farmers to consider carefully the facts presented in this bulletin and to make practical use of the suggestions.

The authors discuss in popular language the diseases spread on the farm by soil pollution, emphasizing especially typhoid fever and hookworm disease, but also referring to dysentery and various other diseases of parasitic origin. There are, it is said, 2,000,000 cases of hookworm disease in the United States, all the result of soil pollution and mostly on the farm, and about 400,000 cases of typhoid annually, and most of the cases are due to the lack of proper disposal of human excreta. With the rapid improvement of sanitary conditions in the cities, typhoid is becoming more and more a disease of rural prevalence and origin, and in the country its spread results largely from the use of insanitary outhouses. Hence the disposal of excreta on the farm is one of the great sanitary problems, one that affects the whole nation, and the appearance of this practical bulletin is timely.

The authors discuss the shortcomings of the conveniences usually found on the farm and then describe three types of sanitary privies—those constructed on the "dry system," the "wet system," and the type developed at the Hygienic Laboratory in which use is made of the principle of the septic tank. The advantages and disadvantages of each are pointed out. The question of the ultimate disposal of the excreta is also discussed. The use of human excrement as fertilizer, except after its thorough disinfection, is unqualifiedly condemned; this practice is prohibited by law in some states. Reference is also made to the striking experiments of Stiles and Gardner[2] which show that fly larvæ in human excrement, buried six feet under sand, are able to make their way in large numbers to the surface.

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[3] See editorial: The Function of the Thymus, THE JOURNAL A. M. A., March 25, 1911, p. 898.

[1] Discussion on the Sanitary Outhouse, THE JOURNAL A. M. A., Jan. 28, 1911, p. 255.

The practical character of the bulletin is shown by the fact that the authors have secured from a practical carpenter precise directions, with diagrams, for building a sanitary privy; they state that any 14-year-old schoolboy of average intelligence and mechanical ingenuity can, by following the directions, build such a privy at a total cost of five to ten dollars. Directions and estimates are also given for the building of sanitary outhouses for country schools and churches; they would be equally useful for country boarding-houses. Owners of the latter would do well to give these suggestions careful consideration, for already many city people are prevented from going to the country by the primitive sanitary arrangements existing there.

Some skepticism may be felt about the adoption by farmers of such suggestions as those contained in this bulletin; but when one considers how widely many other suggestions made to farmers (the building of improved barns, poultry houses, silos, the use of hog cholera serum, etc.), have been accepted although relatively expensive, there is reason to believe that these suggestions will before long be rather widely accepted by the intelligent element of rural communities. The physicians practicing in such communities can do much in this work, for people are in the most receptive mood for suggestions when they are suffering, or are threatened with suffering, as the result of the neglect of proper precautions. Such activity will also redound to the credit of the physician, for the public is judging members of the profession more and more by their attitude in respect to preventive medicine and their ability to protect the well from communicable diseases.

Physicians residing in a rural community, or having occasion to go there, will be interested in the perusal of this bulletin, which may be obtained by applying to the Department of Agriculture or to a congressman.

Variations in Male and Female.—The greater tendency of males to both physical and psychic variations from the normal, says Stewart (*Medical Record*), has been taken as an indication of their less stable character. Without enumerating the long list of well-known abnormalities and malformations, as clubfoot, harelip, cleft palate, supernumerary digits and nipples, common in both sexes, suffice it to say that, with the exception of congenital dislocation of the hip and a few other minor malformations, such variations are much more frequent in males than in females. The same rule holds good in regard to psychic variations. If geniuses, including musical and mathematical prodigies are more frequent among men, idiots and cranks are less frequent among women.

Current Comment

WHAT'S THE MATTER WITH KANSAS?

"Professor" Samuels of Wichita, Kansas, is a faker who claims to cure practically every disease in the calendar. He gets his victims through newspapers, and he evidently gets a great many, for he is able to carry full-page advertisements in the large metropolitan dailies, to say nothing of hundreds of smaller advertisements in less expensive newspapers. His "remedy" is an "eye-water." Analyzed by the chemists of the American Medical Association, it was found to consist essentially of a mixture of equal parts of salt and sugar in hydrant water. The price of the mixture is $25 an ounce. It does not take an expert to prove that such a mixture will not cure consumption, blindness, paralysis, Bright's disease or any of the hundred other ailments that Samuels professes to treat. Expert knowledge is not required to declare the treatment a fraud and the "Professor" a swindler. It is a conservative statement to say that a man who will take money from a consumptive, an epileptic or a victim of the morphin habit under the pretense of curing his disease with a mixture of sugar, salt and water is an unconscionable scoundrel. We believe that this man can be put out of business under the existing state laws in Kansas. If on no other grounds, he can at least be declared a swindler for obtaining money under false pretenses. Unless we are mistaken, this man tried to work the same scheme in Oklahoma, but the authorities there made life such a burden for him that he sought a more complaisant community. This he has apparently found at Wichita, Kansas. What's the matter with Kansas?

KEEP THE TOOTH-BRUSH CLEAN

Another time-honored and long-cherished institution has been attacked by the ruthless scientist and hygienist. This time it is the tooth-brush. Soap and the tooth-brush have hitherto been considered almost indispensable adjuncts of civilization. After years and years of patient teaching of the young that correct personal hygiene required the use of the tooth-brush, after its adoption as a necessary or desirable part of the accouterment of the United States soldier, who proudly carried it, stuck in the band of his hat, in the campaigns in Cuba, Porto Rico, the Philippines and in the Boxer Rebellion in China, where it was observed and commented on favorably by the observers of the sanitary departments of the armies of the world, it is now to be discredited because it is not conformable to modern hygiene and sanitation. The tooth-brush, according to Smale and Jones,[1] becomes septic after being used once, each bristle becoming an inoculating needle by which the person using it may become inoculated with the multitudinous germs which flourish on it, producing pyorrhea alveolaris, with such serious possible sequelæ as anemia, gastritis and arthritis. They propose as a solution of the difficulty that a new brush be used each time, or that the brush be boiled for five minutes after each using, or that it be kept in a 1 per cent. solution of trikresol or a 10 per cent. solution of formaldehyd. It is a bit disconcerting to think that we have been going along all these years teaching the correctness of the use of the tooth-brush only to find that instead of being an aid to good personal hygiene it has been an instrument for creating or perpetuating infections. How long will it be before that remaining bulwark of civilization—soap—is also attacked and the warning given that the unctuous substance that we smear over our faces and bodies daily is nothing more nor less than an emulsion of deadly bacteria, and that it is only because of our high degree of natural resistance that we have not succumbed? Seriously, however, the contention of Smale and Jones should not be ridiculed, nor, on the other hand, should this useful instrument be discarded lest a worse state follow. But the danger of auto-inoculation with bacteria from the mouth by the brush perhaps is not to be feared so much as its contamination by extraneous matter from lack of proper care in keeping. The methods of disinfection suggested by Smale and Jones, while ideal, are not practical, because they will not be carried out. An effective method, and better because practical and more simple, would be to wash the brush thoroughly *after using, rinse it in an antiseptic* solution (boracic, for example) and then keep it in a bottle corked with antiseptic cotton. The hygienic condition of the tooth-brush is certainly a matter worthy of attention.

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[2] Public Health Reports, Aug. 25, 1911, p. 1277.

[1] Smale, H., and Carmalt-Jones, D. W.: Bacteriology of Tooth-Brushes, Brit. Med. Jour., Aug. 26, 1911. Abstr. in THE JOURNAL A. M. A., Sept. 23, 1911, p. 1086.

EXPENSIVE SUGAR OR CHEAP SACCHARIN, WHICH?

We have already called attention to the fact that, based on the findings of the referee board, the government has declared the use of saccharin in foodstuffs illegal. This official decision, made in April of this year, was to go into effect July 1, 1911. Immediately the makers of saccharin brought pressure to bear at Washington to have the time extended in which the use of their product in foods would be legal. The appeal was granted and the sophisticators of foods—and others—were officially notified that they might continue to use saccharin in the place of sugar until Jan. 1, 1912. Now as the time of probation draws to a close, the saccharin-makers are again appealing to Washington. The summer of 1911 has been an exceptionally hard one on the sugar-refiners. As every one knows, the price of sugar has steadily risen and there is every indication that it will go still higher. Under such conditions, it is natural that those manufacturers of foodstuffs who are more concerned with personal profits than public health should see in the present shortage of the sugar-crop the chance of a lifetime to substitute saccharin for sugar. Evidently then the demand for saccharin is likely to be greater within the next few months than it has been for years. This fact has been taken into account in Europe by the calling of an international conference to prevent the illegal use of saccharin, reference to which has been made in THE JOURNAL.[1] Most European nations have long forbidden the use of saccharin in foodstuffs. Great Britain, while not forbidding its use, puts a prohibitive tax on the product so that in that country it is practically as cheap to use sugar as saccharin. It now remains to be seen whether the three secretaries—the Secretary of Agriculture, the Secretary of Commerce and Labor and the Secretary of the Treasury—will again extend the period of probation for the use of this drug.

THE VIABILITY OF HOOKWORM EGGS

Completing some experiments begun in 1910 by Stiles and Gardner, a partial report of which was given last year, Stiles and Miller now make a final report[1] in regard to the viability of hookworm eggs. One object of the experiments undertaken was to ascertain how long the eggs would remain viable under methods of treatment similar to those present in connection with the barrel privy devised by Stiles for use in country districts. Stiles and Miller summarize their findings as follows: In fecal material kept in water in the examinations made after 68, 117, 144, 317, 323, 349, 357 and 358 days, all the hookworm eggs identified were dead. The longest period after which they found eggs alive under the conditions described was seventy days. They conclude that it seems fairly well established that fermentation for four months in the privy devised by them kills all the hookworm eggs, and that fermentation for three months will kill nearly all of them. This shows that the hookworm eggs are most tenacious of life. They survive probably for a longer time in the earth. Efforts to eradicate all possibility of infection in the highly polluted soil of some of the southern communities will, therefore, be a long, difficult task.

BOGUS SCIENTIFIC INSTITUTIONS

To a certain type of men the sign is of more importance than the thing signified. Europeans have long ridiculed what they are pleased to call the American weakness for bizarre and pseudo-scientific degrees, although, as a matter of fact, this foible is less an American than a European characteristic. In the Berlin Letter of this week,[2] reference is made to a fake scientific organization called the "Italian Physio-Chemical Academy" (Accademia fisico-chemica Italiana) of Palermo, Italy. This concern, which has been previously exposed in these pages,[3] issues "medals" and "certificates of membership" to such individuals as are willing to pay what these questionable honors cost. This Italian degree factory is not the only institution of its kind in Europe. In England, there is the notorious "Society of Science, Letters and Art of London,"[4] which for the mere nominal sum of one guinea ($5) will furnish an ornate "diploma" in sonorous Latin to those who are desirous of writing the magic letters "F. S. Sc." after their names. The "College of St. Columba," another English degree emporium, dispenses the titles "A. Ph." and "F. Ph." with the privilege of permitting the recipient to wear a hood of scarlet cloth lined with green velvet—all for 63 shillings ($16). Coming nearer home, most readers of THE JOURNAL remember the notorious "St. Luke's Hospital,"[4] which, from Niles, Michigan, issued "certificates of merit" at $20—when it was unable to get $25. After the demise of St. Luke's, it was resurrected as the "Christian Hospital"[5] in Chicago. This, too, after a brief period of activity, received its quietus. Presumably so long as there are individuals whose vanity can be gratified by the possession of a "diploma" or "certificate of membership" whose value is measurable only in dollars and cents, so long—provided the government does not interfere—will degree factories and diploma mills flourish; so long as there are shallow egotists to pour dollars into the hopper, so long will degrees and diplomas be ground out.

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[1] Contraband Trade in Saccharin, Paris Letter, THE JOURNAL A. M. A., Oct. 7, 1911, p. 1219.

[1] Public Health Reports, U. S. P. H. and M.-H. S., Oct. 13, 1911.

[2] Page 1380.

[3] THE JOURNAL A. M. A., June 29, 1907, p. 2196.

[4] Exposed in THE JOURNAL A. M. A., May 29, 1909, p. 1773

ANOTHER INTERFERENCE WITH THE FREEDOM OF CATTLE

This dispatch from Jackson, Miss., appears in a recent issue of the Natchez *News*, regarding the efforts being made in Yazoo County to suppress the cattle-tick:

> "The quarantine placed on cattle from Yazoo County appeared to have little effect until the stockmen of that county awakened to the realization that their stock would not be admitted to the Mississippi State Fair, at Jackson, during the latter part of the month. The embargo stung the farmers and they decided to take some drastic measure to eradicate the dreaded tick."

The *News* then gives the proceedings at a meeting of the city council, where strenuous measures were urged to wipe out this blot on the fair name of Yazoo County, and to permit her cattle to appear at the state fair. This is right, nor would any one object to any measures which the Jackson City Council might adopt, to rid the cattle of disease. But, incidentally, how many human beings are there in Yazoo County, Mississippi, to-day who are suffering from tuberculosis and typhoid fever, for example? Nobody knows! Will there be any quarantine against the people of Yazoo County on that account? Oh, no, they can all go to the fair and if any of them are suffering from these diseases, they can communicate the infection to others without hindrance. If one cow died of foot-and-mouth disease in Yazoo County to-morrow the fact would be known in Washington in twenty-four hours, and live stock inspectors would immediately invade Yazoo County. How many women and children died in that county last year? Nobody knows! They are only human beings, not live stock, and in a majority of the states in the union and in all of the southern states, the state pays no attention to the birth or death of a human being. A blooded calf or a pedigreed colt has its birth carefully registered, but the birth of a child is not worth recording. And when it comes to dying, if you are a human being, you can die whenever you like. The state has no money to waste in such "scientific nonsense" as finding out how many of its citizens have died during the past year, or whether the death-rate in Mississippi is growing or decreasing, or what diseases are killing its people. But ticks in cattle—that is a different matter. The cows must not be kept away from the state fair.

Medical News

ALABAMA

Fresh-Air Camp Open.—The Montgomery Antituberculosis League formally opened its fresh-air camp, September 11. The camp is 10 acres in extent, located on a piney hill, and has in addition to a central dining room and kitchen, seven cabins already furnished. The secretary of the league appeals for funds for the maintenance of the camp.

Condemns County Jail.—Dr. William H. Oates, Mobile, state prison inspector, reports that the Madison County jail at Huntsville is more insanitary and less fit for habitation that any other jail he inspected. He has therefore ordered the sheriff to remove all the prisoners from the jail to the Marshall County jail at Guntersville, so that the Madison County jail may be renovated and made habitable.

CALIFORNIA

Insists on Vaccination.—The school board of Fresno has issued an ultimatum that all school children who have not been vaccinated, shall be barred from the Fresno public schools.

Personal.—Dr. John T. Culver, Oak Park, was thrown from his automobile in San Francisco, October 5, and sustained painful injuries.——Dr. Josea O. Perrone, San Francisco, fractured his right leg and suffered internal injuries in a runaway accident near his summer home in Montebello.——Dr. Edwin D. Ward has been appointed assistant health commissioner of Los Angeles, vice Dr. Irving R. Bancroft, resigned.

Many Committed to Asylums.—During August the greatest number on record of commitments to the State Insane Hospital was made. In March, 1910, the month of next highest record, 180 commitments were made, while in August 263 individuals were sent to the state hospital. The number of liquor and drug addicts committed during August was eighty-three, an increase of forty-nine over the figures for the previous month.

Tuberculosis Research Board.—The investigation of tuberculosis conditions in the state for which an appropriation of $5,000 was made by the last legislature, was initiated by the State Board of Health, September 2, when an executive board to have immediate charge of the work was named, consisting of the five following members: Dr. George H. Kress, Los Angeles, president of the State Tuberculosis Association; Charles C. Browning, Los Angeles; Mr. A. Bonnheim of the White Crusaders of Sacramento; Dr. Richard G. Brodrick, executive secretary of the San Francisco Tuberculosis Association, and Miss Katherine Felton, formerly secretary of the Associated Charities of San Francisco.

CONNECTICUT

Appropriation for Epileptic Colony.—The governor-general has signed a bill passed by the general assembly appropriating $147,550 for the construction of buildings, sewage system, water-supply system, power-house, etc., for the State Colony for Epileptics, Mansfield.

GEORGIA

Free Typhoid Vaccination.—Dr. J. Payson Kennedy, health officer of Atlanta, announces that he is prepared to administer antityphoid vaccine free of charge to any one who desires.

Personal.—Dr. Lewis M. Gaines, Atlanta, has been elected professor of neurology in the Atlanta School of Medicine and appointed neurologist to the Tabernacle Infirmary.——Drs. John Funkle and E. C. Thrash have been elected assistant pathologists at the Grady Hospital, Atlanta.

New Clinics Opened.—Under the direction of the faculty of the Medical College of Georgia, Augusta, the south side clinic was opened in that city at Twelfth and Mauge streets. The clinic is in charge of Dr. William C. Lyle and will be principally for the use of colored people.——The Morris Hirsch Memorial Free Medical Clinic, Atlanta, was opened October 4, in the Jewish Educational Alliance Building. The clinic is strictly non-sectarian.

Sanatorium News.—At the September meeting of the trustees of the State Tuberculosis Sanatorium, Alto, Captain W. G. Raoul resigned as chariman of the executive committee and was succeeded by Dr. Jeff Davis, Toccoa. Dr. Henry R. Slack, La Grange, was elected vice-chairman. The board decided that as the legislature had reduced the appropriation for maintenance, a charge of $3.50 per week for 75 per cent. of the inmates would be made, beginning October 1; the balance of the inmates will be treated free of charge. The sanatorium has seventy beds, all of which are occupied.

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[4] See THE JOURNAL A. M. A., June 24, 1899; Oct. 21, 1899; Nov. 16, 1901.

[5] See THE JOURNAL A. M. A., May 23, 1903; June 6, 1903.

ILLINOIS

Sues for Hospital Permit.—Mandamus proceedings to compel the Oak Park Board of Trustees to issue a license for the construction of a hospital in that village, were filed October 2 by counsel representing the West Suburban Hospital Association.

Personal.—Dr. and Mrs. Benjamin Gleeson and family, Danville, and Dr. Abner G. Downer, Princeton, have returned from Europe.——Dr. Albert E. Campbell, Clinton, has been appointed assistant to the chief surgeon of the Illinois Central System.

Hospital for Lake Forest.—Lake Forest is to let the contract for a contagious disease hospital which is to be one story in height, made of brick, with four wards, two wings, and a detached cottage for the caretaker. The building is to be erected on 3 acres of ground donated by the city.

Charities Conference.—The sixteenth annual State Conference of Charities and Correction will be held in Champaign, October 21-24, under the presidency of Sherman C. Kingsley, Chicago. On Sunday morning the pulpits of Champaign and Urbana will be filled by delegates to the conference. On Monday the Section on Children will meet. The afternoon will be devoted to the needy family, and in the evening a mass meeting of the Section on Correction and of the State Association of Poor-Farm Superintendents will be held. On Tuesday there will be a general meeting presided over by Dr. Frank Billings, Chicago, in which the present condition of charity and correction in the state will be discussed. The afternoon will be devoted to the discussion of the feebleminded and epileptics.

Chicago

Personal.—Dr. Frederick K. Ream has been appointed a member of the staff of the ear, nose and throat department of the Illinois Post-Graduate Medical School.——Dr. John B. Eaton has returned from Europe.

La Rabida Closes.—The fifteenth year of the work of the Jackson Park Sanitarium has closed. During the season more than 2,500 children were cared for in the sanitarium, nearly 2,000 of whom were ill enough to be placed on the hospital records. Nearly 1,000 mothers were cared for on their visits to the sanitarium during the season.

INDIANA

Hospital for Princeton.—It is reported that the city of Princeton will purchase for $15,000 the Princeton sanatorium, which cost $35,000, and will maintain the institution as a city hospital. This movement has the support of the local members of the profession.

Personal.—Drs. John W. Sluss, John A. Pfaff and Charles L. Cabalzer, Indianapolis, while busy in the operating room of the Deaconess Hospital, October 5, were robbed of their money and jewelry.——Dr. John K. Kingsbury has been appointed assistant bacteriologist to the Indiana State Board of Health.——A banquet was given by the Lake County Medical Society, October 12, in honor of Dr. William F. Howat, Hammond, recently elected president of the Indiana State Medical Association.——Dr. Samuel C. Thomas, Milroy, was severely injured by being run down by a horse recently.——Dr. Asa W. Brown, health officer of Bluffton, has resigned.——Dr. Sherman B. Hitt, Greensburg, has succeeded Dr. Curtis Bland as secretary of Greensburg Board of Health.

KANSAS

Home for Kansas Leper.—It is announced that Mrs. Mike Quint of Ellis County, a Russian, who is afflicted with leprosy, is to be isolated on a farm which will be given her by the state.

Endorses Health Board.—The Shawnee County Medical Society at its meeting October 3, passed resolutions commending the action of the State Board of Health and the health commissioner of Topeka for their admirable work in controlling the epidemic of small-pox in the city, and urging the strict enforcement of compulsory vaccination in the public schools.

MARYLAND

State to Use Typhoid Vaccine.—The State Board of Health has decided on the use of typhoid vaccine in all state institutions.

Monument Unveiled.—At the ceremonies connected with the placing of a stone marker over the grave of Assistant Surgeon Richard Waters, near Washington Grove, Montgomery County, October 11, ex-Governor Edwin Warfield delivered the address before about 1,000 persons. An original poem was read and the monument unveiled by descendants. The ceremonies were in charge of Daughters of the American Revolution and are the first of the kind in the state. A detail of the Maryland National Guard fired a salute.

Baltimore

Personal.—Dr. Max Kunstler has opened a small hospital on the second floor of his residence, where those who need it may receive attention free of charge.——Dr. George H. Everhart sailed for Europe, October 4.

Deaths by Accident.—Nineteen persons died from accidents in September and 323 met with accidents which were not fatal. Among the 342 accidents, nine concerned automobiles; two, horses; ninety-six, street cars; nine, steam cars; while twenty-nine persons were bitten by dogs.

Bazaar for Physicians' Widows' and Orphans' Home.—The ladies in charge of the Home for Widows and Orphans of Physicians will hold a bazaar at 1112 Madison Avenue, November 1-3. Luncheon and supper will be served on each day. Dr. Eugene F. Cordell is treasurer of the home.

Emergency Hospital Planned.—Movement is on foot for the establishment of an emergency hospital in that part of Baltimore bordering on the Patapsco River, and known as Highlandtown and Canton. Dr. William E. McClanahan, health officer of Highlandtown, and Drs. David W. Jones and Michael J. McAvoy, Canton, are in charge of the project.

Personal.—Dr. Howard A. Kelly returned to Baltimore October 9 in good health after his operation.——Dr. Nathaniel G. Keirle, director of the Pasteur Institute and city postmortem physician, was 80 years old October 10.——Dr. Henry T. Reynolds' buggy was demolished by a street car. He escaped with cuts and contusions and a severe shock.——Dr. Thomas J. O'Donnell, police surgeon, suffered the loss of his motor-yacht *Loyola*. It was totally destroyed at the wharf by fire, caused by back-firing, with a loss of $2,500.

Lectures to School Children.—Mr. H. Wirt Steele, executive secretary of the Maryland Association for the Prevention of Tuberculosis, delivered the first lecture and demonstration of the disease, October 10, before the children of the public schools. He explained the manner in which the disease is contracted and dwelt on the agency of public drinking-cups, dust, filth, bad ventilation, etc. The lecture was illustrated and the bacilli were shown under the microscope. The lectures will be continued daily until all the children have been reached.

MICHIGAN

To Study Occupational Conditions.—With the especial approval of Governor Osborn, the State Board of Health has authorized the secretary to bring about an investigation of the occupational conditions in Michigan, with a view to prevention of unnecessary loss of life and health from conditions that can be remedied. This work is to have the immediate attention of the department, a thorough investigation to be made of all industrial conditions that affect health and life.

Eugenics.—The State Board of Health at its meeting at Lansing, October 13, decided to employ Miss Adele McKinnie, an expert investigator in eugenics from the Eugenics Record Office, Cold Springs Harbor, Long Island, N. Y., as a special medical inspector, to investigate during the next six months the condition and extent of feeble-mindedness and mental deficiency in Michigan. Miss McKinnie's work will begin at the State Home for the Feeble-Minded and Epileptic, at Lapeer, under the immediate direction of Dr. George S. Chamberlain, medical superintendent of that institution.

MINNESOTA

Leper Dead.—After having suffered from leprosy for twelve months, Ludwig C. Dyregrow, a tailor, died September 25, at his home in Minneapolis.

Sanatorium Almost Ready.—The contractors report that the St. Louis County Tuberculosis Sanatorium, Midway, will be ready to receive patients, December 1.

"Tag Day" in St. Paul.—The women in St. Paul in their annual "tag day," October 11, collected more than $15,000, which will be used in the campaign against tuberculosis.——The St. Paul Antituberculosis Society has moved into new headquarters at the New York Life Building, Fifth and Minnesota Streets.

Dr. Wiley Upheld.—The Hennepin Medical Society at its last meeting adopted resolutions upholding Dr. Harvey W. Wiley and expressing satisfaction at the decision of the President in the case. The Northwestern Branch of the American Pharmaceutical Society also passed resolutions expressing confidence in Dr. Wiley.

NEVADA

State Society Meeting.—The eighth annual meeting of the Nevada State Medical Association was held in Reno, October 10-12. At the election, October 12, Dr. Benjamin F. Cunningham was elected president; Dr. Donald MacLean, vice-president, and Dr. Martin A. Robinson was reelected secretary and treasurer, all of Reno. The next meeting of the association will be held in Reno.

NEW YORK

Benefit for Crippled Children.—The annual benefit for Robin's Nest, a home for crippled children, at Tarrytown, netted $1.000.

State Charities Aid Association and Tuberculosis.—This organization has been sending copies of a set of resolutions to the various medical organizations which they believe will further their work in combating tuberculosis. Their slogan is "No Uncared-For Tuberculosis in New York State in 1915."

Cancer and Typhoid Show High Mortality.—The *Monthly Bulletin of the State Department of Health* states that cancer and other malignant tumors have destroyed nearly as many lives as tuberculosis; during July 1,064 deaths were charged to this cause. Deaths from epidemic diseases have been exceptionally few. The only disease that appears to be on the increase is typhoid fever.

New York City

Change of Name and Meeting-Place.—The New York Physicians' Association (formerly the East Side Physicians' Association) will hereafter hold its meetings at Tuxedo Hall, Madison Avenue and Fifty-Ninth Street.

Personal.—Dr. Thomas H. Curtin, coroner's physician, has returned from Europe.——Dr. and Mrs. Canfield, Dr. and Mrs. N. E. Brill and Dr. Charles Langdon Gibson have returned from Europe.——Prof. Silvio Tonnini of the University of Bologna arrived in New York, October 5.

Round Up Bad Food Sellers.—The board of health has been showing up the purveyors of bad eggs, meat and milk. In the court of special sessions, October 8, sixty men were arraigned accused of selling unwholesome or adulterated foodstuffs. The fines ranged from $10 to $500.

To Study Pellagra.—The department of tropical medicine of the New York Post-Graduate Medical School is planning to investigate pellagra in southern states in the spring. This is made possible by the gift for this purpose of $15,000 by Col. Robert M. Thompson and Mr. J. H. McFadden.

Lectures on Skin Diseases.—Dr. L. Duncan Bulkley will give the thirteenth series of Clinical Lectures on Diseases of the Skin in the out-patient hall of the New York Skin and Cancer Hospital on Wednesday afternoons, from November 1 to December 20 at 4:15 o'clock. The course will be free to the medical profession.

Plans for a New Hospital Filed.—The New York Society for the Ruptured and Crippled has filed plans for a new building which will be located on East Forty-Second Street extending from 303 to 325 and through to Forty-Third Street. The old building of the society was sold to the New York Central Railroad. The new building will be of brick and terra cotta and will cost $800,000.

City Death-Rate Again Breaks Record.—The Department of Health announces that the death-rate for this city for the week ended October 7 was the lowest recorded in the statistics of the state. The rate was 12.60 per 1,000, while for the corresponding week of 1910 it was 14.48. The low mortality is due to the decreased number of deaths at all the different ages grouped and is not confined to any one particular period of life. The city was freer from infection than at any time in its history, there being not one death from scarlet fever or measles reported.

NORTH CAROLINA

Personal.—Dr. Houston B. Hiatt, Ashboro, has been appointed local surgeon for the Southern Railway.——Dr. W. H. Hardison, Creswell, is reported to be critically ill in St. Vincent's Hospital, Norfolk, Va., after an operation for appendicitis.——Dr. Charles L. Minor, Asheville, has returned after a summer in the north woods of Canada.——Dr. Joseph Hyde Pratt, Chapel Hill, has been elected president and treasurer of the Southern Appalachian Good Roads Association, and Drs. Archibald Cheatham, Durham, and Chase P. Ambler, Asheville, have been elected members of the executive committee.

OHIO

Fraternity Incorporated.—The Alpha Xi Chapter of the Alpha Kappa Kappa of the medical fraternity has been incorporated in Cleveland.

Club Election.—At the annual meeting of the Celsus Club, held in Akron, September 28, the following officers were elected: president, Dr. Judson A. Hulse; vice-president, Dr. Samuel St. John Wright; secretary and treasurer, Dr. Edmund A. Weeks.

Personal.—Dr. William H. Stover, Tiffin, announces that he is about to retire from active practice.——Dr. William C. Leeper, McConnelsville, has leased property on Kennebec Hill on which he will build a number of cottages to be used as a sanatorium.

Northwestern Physicians Elected.—At the annual meeting of the Northwestern Ohio Medical Society, held in Marion, September 14 and 15, Lima was selected as the next place of meeting, and the following officers were elected: president, Dr. Martin Stamm, Fremont; vice-president, Dr. William A. Belt, Kenton.

PENNSYLVANIA

Diphtheria in Lebanon.—Because of thirty-three cases of diphtheria in Lebanon and more in the suburbs, the local board of health on October 14 closed all theaters and other public meeting places and no services were held in the churches.

Relief Fund for Austin Physicians.—A circular letter received at this office October 16 announces that the secretary of the Medical Society of the State of Pennsylvania, Dr. C. L. Stevens, of Athens, Pa., is authorized to receive the contributions for the relief of physicians who suffered loss by the flood at Austin. Disbursements will be made by the Committee on Benevolence of the society.

Philadelphia

County Society to Entertain Surgeons.—There will be a joint meeting of the Congress of Clinical Surgeons of North America and the Philadelphia County Medical Society, November 8. Following the scientific program the society will give a reception to the visiting members of the congress.

Plea for Special Courses in Sexual Hygiene.—Dr. Joseph S. Neff, director of public health and charities, in his weekly bulletin, made a strong plea for the introduction in the public schools of special courses in hygiene, to instruct children in the facts of life and their sex responsibilities. "Penitentiaries, insane asylums, institutions for the blind and homes for the feeble-minded would not contain 25 per cent. of their population had the present adult generation been properly instructed in their youth in social hygiene."

Municipal Research Bureau Recalls Director.—Dr. Jesse D. Burks will return to this city as the director of the bureau of municipal research. He was released three months ago at the request of the New York Board of Estimate to serve on a commission which is conducting a comprehensive inquiry into the public school system of New York. The bureau of municipal research has given active cooperation in several divisions of the bureau of health, where notable results have been obtained in the reorganization of the work in medical inspection, in milk inspection, child hygiene and the municipal hospital.

Banquets.—A reception and dinner was tendered by the Medical Club of Philadelphia, October 6, to the following newly-elected members of the medical faculty of the University of Pennsylvania: Drs. Gwilym G. Davis, orthopedic surgery; John B. Deaver, practical surgery; M. Howard Fussell, applied therapeutics; Milton B. Hartzell, dermatology; Edward Marlin, surgery; A. M. Pearce, research medicine; A. H. Richards, pharmacology; Alfred Stengel, medicine, and Alonzo E. Taylor, physiologic chemistry.——A banquet was given at the University Club, October 5, by Drs. J. Chalmers Da Costa and Edward Spitzka, in honor of Edward Croker, formerly chief of the New York Fire Department, and Dr. Harry M. Archer, honorary surgeon of the department.

Personal.—Dr. Harvey W. Wiley was one of the speakers at the Succoth Pilgrimage and fourteenth annual meeting of the National Farm School on October 15. Dr. Wiley was the guest of honor at a reception, arranged by the gentlemen's and ladies' boards of the farm school at Dr. Joseph Krauskopf's home in Germantown, October 14.——Dr. W. W. Cadbury, one of the five University of Pennsylvania men who are teaching in the Christian College at Canton, China, arrived in Philadelphia. October 13.——Dr. Herbert Fox has been appointed director of the Pepper Laboratory of Clinical Medicine.——Dr. William T. Porter, professor of comparative physiology in Harvard University, will deliver the fourth of the Weir Mitchell lectures of the College of Physicians, in Mitchell Hall. November 3, on "Shock."

Final Report of Pier Hospitals.—The reports of work done at the Race Street and Chestnut Street piers have been received by Dr. Joseph S. Neff, director of public health and charities and show that the Race Street pier cost $2.500 to maintain and the Chestnut Street Recreation Pier. $1,114.70; that a total of 340 sick babies were treated at the Race Street Pier. of which 241 were discharged, as cured, 30 as improved. 18 as unimproved, 8 transferred to other institutions and 43 died. The Chestnut Street Pier handled the whole question of infant hygiene, together with the instruction of mothers. A total of 10,743 infants were cared for there and 6.745 mothers and care-takers were instructed. Of all the infants. 2,862 were sick and 128 were sent to the Race Street Hospital. A total of 5.666 older children were cared for at Chestnut Street and 80 emergency cases were treated.

VIRGINIA

Personal.—Dr. Elliott T. Brady, Abingdon, has resigned from the State Board of Medical Examiners.——Dr. Aelpfar A. Marsteller. Thoroughfare, has been commissioned captain in the Medical Corps. Virginia Volunteers.

Tablet to Confederate Surgeon General.—At the meeting of the Confederate Memorial Library Society at Richmond. September 29. it was decided to install a tablet in the building on the site of the wartime residence of Brigadier General S. P. Moore, surgeon-general of the Confederate Army.

Academy of Medicine Election.—At the annual meeting of the Roanoke Academy of Medicine, October 2, the following officers were elected: president, Dr. E. Pendleton Tompkins, Roanoke: vice-presidents, Drs. Thomas D. Armistead, Roanoke, and Robert H. Garthright, Vinton; secretary, Dr. Lewis G. Richards. Roanoke. and treasurer, John W. Preston, Roanoke.

Free Treatment at Hookworm Dispensaries.—Free dispensaries, in localities where hookworm exists, are to be established by the State Health Department, which has charge of the contributions of the Rockefeller Commission in the state. Six points in Lunenburg County will be the first and other counties will be organized as rapidly as possible.

WEST VIRGINIA

State Association Election.—At the forty-fourth annual meeting of the West Virginia State Medical Association. held in White Sulphur Springs, September 20-22, Dr. Charles O. Henry. Fairmont. was elected president. and Dr. Arthur P. Butt. Davis. was reelected secretary. The next meeting will be held in July. 1912. at Webster Springs.

County Association Meeting.—At the annual meeting of the Ohio County Medical Association, held in Wheeling. September 18, the following officers were elected: president, Dr. Samuel L. Jepson: vice-president. Dr. Sylvanus S. L. Spragg; secretary. Dr. Earl F. Glass; treasurer, Dr. Reed McC. Baird; censors. Drs. Gustavus A. Aschman, N. Atwood Haning. and Harry M. Hall: delegates to the state association, Drs. Frank L. Hupp. William A. Quimby and John T. Thornton. and alternates, Drs. Samuel L. Jepson, Jacob Schwinn and E. A. Hildreth. all of Wheeling.

GENERAL

Bequests.—The following bequests to hospitals have recently been noted:

Catherine Deveney, Philadelphia. $15,000 to the Episcopal Hospital.

Mrs. Helen Hartley Lewis, New York, $125,000 to the new Polyclinic Hospital.

William A. Lawrence. Goshen, N. Y.. $5,000 to the Seney Hospital. Brooklyn.

Mrs. Caroline C. Thompson, Bridgeport. Conn.. $5,000 for a free bed in the Bridgeport Hospital for colored residents.

Oto-Ophthalmologists Organized.—The Pacific Coast Oto-Ophthalmological Society has been organized in San Francisco, with an initial membership of forty and the following officers have been elected: president. Dr. John F. Dickson. Portland, Ore.: vice-president. Dr. William H. Roberts. Pasadena. Cal.; secretary and treasurer. Dr. Cullen F. Welty. San Francisco; the executive committee. Drs. William A. Martin. San Francisco. Henry La Motte, Seattle, Wash., and John F. Dickson, Portland. Ore.

Milk Standards Commission Meeting.—**The Milk Standards** Commission of New York. of which Dr. William A. Evans, Chicago, is chairman, and Dr. Charles E. North, New York City. secretary, its membership being made up of health officers. bacteriologists. veterinarians and others interested in and connected with the milk industry, met in New York City, October 5 and 6. The commission recommended the adoption of four grades of milk: (a) certified milk, or its equivalent; the standards being those of the American Association of Certified Milk Commissions and of the Laboratory Section of the American Public Health Association; (b) inspected milk from tuberculin-tested cows from dairies scoring over 70 on the government score-card. temperature 50 F. and below. and bacteriologic count less than 100.000; (c) pasteurized milk with a bacterial count of less than 50,000. and a temperature of 50 F. or below: (d) cooking milk from dairies scoring 40 or less on the government's score-card. with a bacterial count of over 1,000,000; pasteurization required. The commission also recommended that the dirt test, bacteriologic standards, obligatory dating. prohibition of the sale of old milk. and a requirement of a temperature of below 50 F. be made a part of all municipal ordinances. It recommended further that the quality of milk as regards butter fat should be on one of two bases: that cities shall have an ordinance requiring a certain percentage of butter fat, or that dealers shall guarantee a certain percentage of butter fat. and shall be held responsible for the amount thus guaranteed.

FOREIGN

Eugenics at Constantinople.—The cable states that the head of the Armenian church at Constantinople has decreed that henceforth every couple applying to be married by the Armenian church must present a certificate from a qualified physician stating that both are in perfect health.

Epidemic Poliomyelitis in the Scandinavian Countries.—A Danish exchange says that there is no doubt that poliomyelitis is assuming an epidemic character in Sweden and also in Denmark. Other advices report about forty-six cases this year at Christiania. with eleven deaths, with a total for Norway of 743 cases and seventy-six deaths, the disease being more prevalent in the rural districts. The epidemic is said to show the peculiar features of former epidemics, especially the way in which only one person within the same household has been attacked. and even within the same building the cases have appeared as isolated; no connection between the cases could be detected. Several of the patients in Christiania were found to have been in the country immediately before the onset of the disease. Flies have been mentioned as disease-carriers; also chickens. The only preventive measure so far has been segregation. The schools have been closed in certain rural districts where the disease has been markedly prevalent; in the cities this measure has not been carried out. only those children who came from households of which a member has been attacked have been kept from school for seven days. In one town the authorities exclude children from school if there is a case of poliomyelitis in the building where they reside, even when not in their own family. Up to September 12 only three adults had been attacked by the disease. and in a more severe form. The health authorities have advised the population to be on the watch for passing paresis. catarrhs, stomach irregularities and brief febrile illnesses as possibly abortive forms of the disease.

CANADA

McGill Opens.—McGill University, Montreal. has a large increase in attendance. Freshmen in the medical department number seventy-one. the largest medical freshman class in six years.

New Hospital.—It is planned to establish a hospital at Yarmouth. N. S., as the only one in that city is its small Seamen's Hospital which is inadequate to the needs of the community.

Tuberculosis Supervision.—Toronto is now caring for 418 cases of tuberculosis under the supervision of municipal nurses. Of this number 117 are in sanitariums.——About 100 cities and towns in Canada are now engaged in the war against tuberculosis.

Opening Academy Meeting.—The Academy of Medicine, Toronto. opened for the season October 4. The president, Dr. Newton A. Powell. delivered the annual presidential address and gave some hitherto unpublished history of the emergency branch of the new Toronto General Hospital. which is to be known as the Shields Emergency Hospital. through the generosity of Misses Agnes and Jane Shields in memory of their late brother, Mr. John Shields.

Chicago Health Exhibit in Canada.—The exhibit of the Chicago Health Department which was taken to the Canadian Exposition, Toronto, is to be exhibited in all the schools of Canada, by request of the governor-general. Canada is also sending a health train and exhibit throughout the dominion.

Tuberculosis in Quebec.—In the report of the Royal Commission on Tuberculosis for the province of Quebec, which has just been published, it is seen that the deaths in that province from this disease are not decreasing. The death-rate in Quebec is higher than in Ontario or any of the adjacent states. It remains stationary in Quebec, while in other countries where a well organized campaign is conducted it is reduced 40 to 50 per cent. The death-rate in the rural districts nearly equals that of the cities and most of the victims range between the ages of 25 and 40 years. It is estimated that Quebec is losing annually $2,000,000 as a result of tuberculosis.

Personal.—Dr. David M. Lineham, Glenboro, Manitoba, and Dr. McGillivary S. Fraser, Brandon, have been placed in charge of the medical work on the Hudson Bay Railroad.——Dr. M. A. Lindsley has been appointed professor of pathology and bacteriology, and Dr. D. Fraser Harris professor of physiology and histology in Dalhousie University, Halifax. Arrangements have also been made with Dr. George L. Sinclair for a course of lectures on mental diseases, and with Dr. Montague A. B. Smith for a course in clinical and practical medicine. ——Dr. Ernest Jones, Toronto, has returned from Germany where he read a paper before the International Congress of Psychologic Therapeutics.——Dr. John George Adami, Montreal, is returning from Rome. He has recently been elected president of the Montreal City Improvement League.——Dr. John L. Day, Montreal, is recovering from an appendicitis operation.——Sir Watson Cheyne, England, accompanied by Dr. George S. Strathy, Toronto, has been on an extensive canoe trip in northern Ontario.——Dr. W. J. Hunter Emory, Toronto, was tendered a complimentary banquet by the staff of Grace Hospital, at the Toronto Club, October 6. He has left for southern California, where hereafter he will reside and devote his attention to fruit farming.——Dr. Herbert S. Birkett and Dr. Ethier, Montreal, have returned from Europe.

LONDON LETTER

(From Our Regular Correspondent)

London, Oct. 7, 1911.

Dangers in the Manufacture of Patent Fuel with Pitch

Patent fuel made by mixing pitch with small coal in a proportion varying from 8 to 10 per cent. is produced on a large scale. The mixture is first reduced to dust in disintegrating machines heated sufficiently to melt the pitch and finally pressed into molds to form briquettes. This operation has been certified by the government as dangerous and, as the result of an inquiry, regulations have been proposed dealing with the manufacture. The danger arises from the action of pitch fragments or pitch dust on the eyes and skin of the workmen. The dust causes irritation of the eyes and ulceration of the cornea, while on the skin it produces dermatitis and warts. The warts, primarily non-malignant, become epitheliomatous. They are found on the arms and scrotum. The ingredient of pitch which causes the warts has not yet been ascertained; anthracene has been suggested. It is proposed to prevent dust in the factories by encasing the elevators and disintegrating machinery, and to protect the workmen from dust by the wearing of overalls, and by the removal of the dust from the skin by bathing and washing at the works. The wearing of goggles is to be compulsory.

The Opening of the Medical Sessions at the London Hospitals

The formal opening of the winter session has taken place at the London Hospital by the usual introductory addresses. A large amount of reorganizing and rebuilding has taken place during the last year and is still in progress. Guy's School is largely rebuilt and within twelve months will be second to none in equipment. New chemistry and physics departments have been erected and the physiology department has been considerably expanded. Elaborate arrangements have been made for research in all these subjects. An entirely new building is being equipped for pathology, while the dental department is being greatly extended. At St. Thomas Hospital a school of physical exercise and massage has been opened, under the charge of Mr. R. Timburg, a graduate of the yal Gymnastic Central Institute, Stockholm. At the London Hospital considerable additions have been made to the dental school and a beginning has been made in providing a students' hostel.

The Insurance Bill and Voluntary Hospitals

At the annual conference of the British Hospital Association, the president, Sir William Corbett, chairman of the Manchester Royal Infirmary, stated that the insurance bill, while not diminishing the work which the voluntary hospitals have to do, would seriously diminish their income by tapping the two main sources of income—the employer and the working man. Each of these would be taxed under the bill for sickness and, therefore, would be less inclined to subscribe voluntarily for the same object. He suggested that the hospitals should receive payment for the insured patients whom they treated.

A Babies' Boarding House

A novel and most useful institution, St. Mary's Nursery College, has been founded in London by Mrs. Bernard Mole. It may be called a babies' boarding house run on original principles. This college fulfils two objects: It trains efficient girls who desire to become children's nurses, and it affords a much-needed home to motherless or uncared-for babies. There are crèches, orphanages and similar institutions to assist mothers of the poorer classes who may be obliged to go out to work, or the widower left helpless with young children. But until this college was founded the fact was overlooked that a similar need exists in higher classes. There are professional women who have to continue to work after marriage, and also widowers who have no means of having their children properly cared for. While doing this the college provides an excellent training for girls who desire to become children's nurses; for these there is a great demand. As the children range in age from 2 weeks to 7 years, extensive experience can be gained. The girls are instructed in the dietaries suitable for babies at different ages, nursery cooking and the cutting out and making of children's clothes. Classes are also held in nursery hygiene, physiology, first aid, kindergarten occupations, games and songs. If the student passes through her course satisfactorily she is entitled to wear the uniform of the college. The fee for six months' training (including board and lodging) is $180.

London's Next Lord Mayor a Doctor

In the coming year, for the first time in its history, London will have a doctor for Lord Mayor. The recipient of the honor is Sir Thomas Crosby, M.D., the alderman next in rotation. He has been for many years engaged in practice in this city.

Hydrophobia From a Fox Bite

A death from hydrophobia contracted in an extraordinary way—from the bite of a fox—has just been the subject of an inquest. Some months ago the deceased was bitten on the hand, through a thick woolen glove, by a hunted fox at the end of a run. He dismounted from his horse, drove back the hounds and held the fox. While doing this he was bitten. He made no complaint about the bite and mentioned it only casually to his friends. He died on the fourth day of his illness and only twenty-eight hours before death did symptoms of hydrophobia become manifest.

Vital Statistics

According to the fifty-eighth number of a most useful publication, the *Statistical Abstract for the United Kingdom*, which has just been issued and contains figures for the fifteen years up to and including 1910, the death-rate of England and Wales has fallen from 17.1 per 1,000 in 1896 to 13.5 in 1910. At the same time marriages have fallen from 15 to 14.3 per 1,000 and the birth-rate from 29 to 25. During this period there has also been a great increase in emigration. In 1896, 57,547 Britons emigrated to British colonies and 104,378 to foreign countries, chiefly the United States. Last year 249,499 emigrated to the colonies, of whom Canada received 156,990 and Australasia 45,701. For the first time on record more went to Canada than to the United States, although the number to the latter was above the average, 132,192. Increasing temperance is shown in the decline of spirits consumed. In 1900, this amounted to 37,000,000 of proof gallons; in 1910 to only 24,000,000 in spite of the increase of population. During the same period the amount of beer consumed fell from 36,000,000 to 32,000,000 barrels.

The Employers' Liability Act

The Employers' Liability Act of 1906 was passed with the sole object of benefiting the workman who might be injured in his employment without any regard for the principles of justice and has been a fertile cause of malingering and litigation. Like other benevolent legislation passed without regard for economic laws it has proved in some ways a hardship to the very class it was designed to benefit. It tells against a large section of workmen suffering from some slight physical disability which in no way increases the risk of accident and causes employers or insurance companies to protect themselves by refusing to engage this class. It is therefore more difficult for men past middle age who have some slight physical incapacity to find employment. The burden imposed by the act is serious, for it extends not only to the legal dependents of an incapacitated or deceased workman but to his illegitimate dependents, to embrace child, grandchild, parent and grandparent. It has even been held that a posthumous illegitimate child comes within its scope. The most unjust feature of the act is that the employer is liable for death or disability even though it results from wilful and serious misconduct on the part of the workman. Thus, if a mason goes to work intoxicated and falls from a scaffold, the employer must pay. Another extraordinary feature of the act is its discrimination in favor of manual over brain work. A "workman" signifies one who earns his living by manual labor, but it also applies to any one who works under an employer by way of clerical work or otherwise and whose remuneration does not exceed $1,250 per annum. Above this a man who works with his brain is excluded, but a man who works with his hands is included though earning any amount.

Condensed Milk as a Food for Infants

Under the direction of the local government board. Dr. F. J. H. Coutts has investigated the use of condensed milk as a food for infants and has issued an important report. He has found that machine-skimmed milk, condensed milk, is used on a considerable scale. Though the label on the tin declares, as is required by law, that the milk is "machine-skimmed," poverty tempts the mother to buy it and in some cases it seems that the term is imagined to be some guarantee of purity, as the milk is supposed not to be touched by hand. Others imagine that the term implies that the tin contains milk rich in cream which has been skimmed from the top. Sometimes the term "machine-skimmed" is in small type on an obscure part of the label. All these things tend to confuse the purchaser and lead to failure to recognize the real meaning of the warning. Dr. Coutts recommends that tins containing skimmed milk should bear the words "Unfit for Infants." As to the value of whole condensed milk, there is considerable difference of opinion, but Dr. Coutts thinks that there is a tendency to exaggerate the evil effects of feeding on full-cream condensed milk.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Sept. 29, 1911.

Fourth International Conference of Eugenics

The Fourth International Conference of Eugenics which has just been held in Paris, has drawn general attention to this science, which, although it has been in existence only about ten years, has already given valuable results in the study of production of domestic animals, grains and plants. Recognition has thus been given to the great importance for biology of the very curious facts discovered about fifty years ago by the Austrian monk, Gregor-Johann Mendel, who being a devoted amateur gardener, performed many experiments in the crossing of plants, especially peas. The results of these experiments, published in a little-read book, remained unnoticed until 1900, when three naturalists studying independently the variation of heredity, Hugo de Bries, Correns and von Tschermak, were led to discover the work of Mendel. New researches soon confirmed what were thereafter called Mendel's laws. Are the principles of genetics destined to enter rapidly into the domain of perfecting races? Certain enthusiastic savants seem to think so. Some skepticism on this point, however, seems justified. Materials are still lacking to permit the categorical assertion that Mendel's laws apply to man and in particular to pathologic heredity in man. It is, however, in man that the study of the problem meets the greatest difficulties. Experiment is of necessity excluded; and moreover the animal and vegetable races are more pure than the infinitely hybrid nations of the west of Europe and the United States. Moreover, it is possible to know only a few human generations: in the space of thirty years one may have thirty generations of peas but hardly two generations of man.

An interesting communication on the mechanism of the variation of races and the molecular transformation which accompanies these variations was made at the conference by Dr. Armand Gautier, professor of chemistry at the Faculté de médecine de Paris. The theories of Lamarck and Darwin do not account for the abrupt and apparently spontaneous modifications which are often noticed in plants and animals when they are observed in sufficient numbers. According to Professor Gautier these abrupt variations are the principal origin of races. They may be attributed to two preponderant, if not exclusive, causes. 1. The action of a foreign fecundating plasma on the vegetable or animal ovule. 2. The symbiosis of vegetative plasmas belonging to different races, sometimes to different species, but adapted to enter in coalescence, that is, to grow and to functionate in intimate union with the plasmas which they modify. The modifications thus caused are not gradual but sudden. They even transform the chemical constituents of the new plant or animal. Gautier is disposed to believe that it is by sudden variations of this kind that the various animal and vegetable species are formed with their present intervals and their reluctance to mingle.

M. Louis Blaringhem of the Sorbonne, explained the plan formed by Dr. Roux, director of the Pasteur Institute, to study various temperaments and their resistance to diseases. A close relation seems to exist between diseases and the coloring of individuals. Guinea-pigs in this respect present interesting peculiarities. Experiments were undertaken at the Pasteur Institute to obtain pure strains of red, gray, black and white guinea-pigs. It appeared that white guinea-pigs are very prolific and produce more females than the red, but they are also much more susceptible to [non-infectious] diseases than the red, although more resistant to infectious diseases.

The Rôle of Military Physicians in the Pacific Penetration of Morocco

Dr. Toubert, chief physician of the army and former director of the sanitary service at Casablanca, has just published an interesting article on the pacific penetration of Morocco by medical action. At Morocco the practice of the indigenous medicine and pharmacy is absolutely unrestrained. There is a distinct line between the indigenous medicine and surgery. Surgery is, as it was once in France, in the hands of barbers. They are skilful in the use of cupping-glasses and understand the good effect of the cautery well applied. Medicine, in the hands of empirics and especially in the hands of the marabouts, consists in the prescription of common plants and various minerals and especially in the distribution of little sachets containing paper covered by Arabic figures which act mysteriously by long contact with the diseased part. Under these conditions it is easy to understand that the often ready success of modern medicine and surgery rapidly inspire the Moroccans with confidence in our military physicians, and this all the more, since the greater number of physicians attached to the French consulates are young military physicians called to these responsible posts because of the knowledge of the indigenous medicine which they have acquired in Algeria and in particular their knowledge of the Arab language and of the psychology of the Mussulman races. The civilizing influence of France in Morocco finds a powerful aid in public sanitation and hygiene. In this respect the military physicians find valuable collaborators among the natives of high rank and Moroccan functionaries with whom they have had occasion to form professional relations on coming to Casablanca, and who are generally much impressed by a visit to the campaign hospital at Casablanca. When it becomes necessary to combat small-pox, exanthematous typhus and recently, the plague, the powerful collaboration of these former patients was always received by the physicians.

Physical Culture in the Army

Impressed by the unsatisfactory gymnastic records of the candidates recently received at the military school, M. Messimy, minister of war, has decided to raise the physical requirements in the examination for admission to these schools. He insists that the physical culture of future officers ought to be carried to the same point as their general culture. The minister is taking an interest, moreover, in developing physical culture in the army, especially among the officers.

An Anti-Alcoholic Federation Among Workmen

The scourge of alcohol, to which for a long time the working class has been very indifferent, has begun to interest them. There has been recently organized a Fédération ouvrière anti-alcoolique, which is sending out an appeal to all the syndical organizations inviting them to take part in anti-alcoholic propaganda. The federation has already held several meetings and given moving picture lectures in Paris.

Cholera in Tunis

The sanitary situation of the region of Tunis is at present inspiring great uneasiness. Cholera which appeared in some place in the suburbs has now penetrated into the Arab city. Up to the present the epidemic has made victims only among the Jews and natives; the Europeans have been exempt.

Deaths

Dr. H. C. Lutz, *agrégé* libre of the Faculté de médecine de Paris, and Dr. Louis Grandeau, former dean at the Faculté des Sciences de Nancy and professor of agriculture at the Conservatoire national des arts et métiers, have just died at Paris.

Creation of a Pasteur Institute at Algiers

A Pasteur Institute has just been established at Algiers, the technical and administrative direction of which is undertaken by the Pasteur Institute of Paris. This direction has been entrusted to Dr. Calmette. The scientific make-up of the new institute comprises a service for rabies, a service of bacteriology applied to medicine, an antimalarial service, a service of agricultural microbiology and a veterinary service. The site on which the new buildings are being constructed covers an area of about 2½ acres, in one of the most beautiful spots in the suburbs of Algiers. The architecture of all the buildings is of the simplest, without any costly decoration, and the details of the interior arrangement have been carefully studied so that the expense of the undertaking may be reduced to a minimum, and also with an eye to furnishing all the desirable conveniences for future workers in the laboratories. Thoroughly equipped laboratories are close at hand to each service. Daylight is plentiful everywhere, and the grouping of the laboratories on the northeast side of the building prevents the sunlight from being an annoyance in the microscopic work. One interesting detail is that all the outside openings are covered with brass wire netting, and each door is protected on the inside by a screened vestibule, so as to make it impossible for any fly or mosquito or other winged insect to get inside.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, September 28, 1911.

Personal

Professor König of Greifswald has been elected as successor of Professor Friedrich who goes to Königsberg as director of the surgical clinic.

Agreement Between Germany and Great Britain in the Campaign Against Sleeping Sickness

A few weeks ago an agreement with reference to the combating of sleeping sickness in the protectorate of Togoland and in the Gold Coast Colony was effected between Germany and Great Britain. As the basis of the agreement, both governments shall investigate and keep each other informed of the incidence, extent and spread of sleeping sickness in the regions mentioned and shall treat persons affected with the disease and take precautionary measures against this disease in proportion to the means at the disposal of the governments of the territories involved. The two governments shall also have the right to restrain commerce at the frontier by such measures as seem necessary to hinder the spread of sleeping sickness but are required to communicate to each other without delay the measures adopted. The agreement which has been concluded for three years takes effect December 1 of this year and is to remain in force for an additional year so long as notice is not given by one or the other party six months before the expiration of the period of validity.

Sectarian Objection to the Acceptance of a Medical Hospital Intern

Last year an unpleasant sensation was aroused by the fact that the director of a hospital, situated in a suburb of Berlin, refused to accept a medical "praktikant" intern of the Jewish faith, who had announced his desire to take his "practical year" in that institution before obtaining his degree, the refusal being based on the assertion that the director's assistants refused to have anything to do with a Jewish medical "praktikant" and that he must refuse the appointment in order to avoid conflict. There is some doubt whether the director was in the position to restrain his assistants from expressing their antisemitic feelings and to lead them to a better view. At any rate it was very unwise in him to inform the "praktikant" of this reason for his refusal. This view was also expressed in the medical press and in the Berlin-Brandenburg medical council (*Aerztekammer*), and it was also the subject of a complaint against the director addressed to the board of managers of the hospital, but all without reaching any result.

A short time ago the executive committee of the Prussian medical council (*Aerztekammer*) addressed a communication to the imperial chancellor with reference to this matter, requesting that he should officially publish a statement that it was not permitted to a hospital to refuse a "praktikant" intern for sectarian reasons. The answer of the imperial chancellor just published is as follows: "In the decree for the order of examination of May 28, 1901, it is not contemplated that the obligation to accept every candidate who applies shall be imposed on hospitals which are entitled to receive 'praktikant' interns. There seems to me to be little occasion for official interference with the widest freedom of choice as to application and acceptance on the part of candidates as well as of the hospitals; because the number of places for 'praktikants' in Prussia is more than double that of the candidates who have passed the examination, and therefore it is possible for every candidate to find a place for his practical year to correspond to his legitimate wishes. Any official action of the character desired would only have the effect of bringing sectarian matters into the field of medical education which is naturally neutral. I would prefer therefore to refrain from any action in this direction." In the professional journals this answer of the imperial chancellor is unfavorably criticized, but I cannot see the validity of this criticism. In fact there are enough places for all these candidates and it will never happen that a director of a hospital will be compelled to accept a "praktikant" who is not agreeable to him. [The term "praktikant" as used here refers to those students who have passed their examination, but are required to spend a year in some hospital before receiving their license to practice.]

International Tuberculosis Conference

An important meeting took place under the presidency of Prof. B. Fraenkel for the discussion of international tuberculosis questions, in which a number of domestic and foreign members of the international tuberculosis conference participated. It was decided to hold the next international tuberculosis conference in Rome, April 11 to 13, 1912, and to discuss as the most important questions, human and bovine tuberculosis, specific treatment, and the participation of woman in the campaign against tuberculosis. Also measures are to be taken to protect the symbol of the international tuberculosis association, the double red cross, against misuse. Twenty-eight countries belong to the association.

An Italian Fake Scientific Academy and Its Dupes "Honorary Members"

For some years from time to time, to the entertainment of the initiated, it is announced in the medical and daily press that a more or less well-known physician has been elected an honorary member of the Italian Physio-Chemical Academy of Palermo. These announcements are made repeatedly, although it has been pointed out in the professional press that this concerns a downright swindle by two Italian sharpers. These sharpers are speculating, not unsuccessfully, in vanity, and even prominent professors in German universities have become their victims. Now cruel fate has brought it about that one of the most noted and successful Berlin quacks has also been chosen as an honorary member of the academy, and this distinction has naturally been inserted among his other advertisements. The Berlin chief of police has consequently taken occasion in an official notice to show the true character of the academy. The *Deutsche medizinische Wochenschrift* in giving a notice of this announcement adds the [illegible] this announcement will at least prevent [illegible] physicians or such as would like to be sc [illegible] to the Italian swindle. The warning published already years ago in our weekly and other medical journals and later repeated has not been sufficient to hinder even university professors from accepting this 'honorary membership.' The noted Berlin quack in question, has published a list of his brother members in this academy in a statement in reply to the warning of the chief of police. Each of those whose names are found in this list may well complain with Gretchen: *Mir tut es in der Seele weh, dass ich mich in dieser Gesellschaft seh.* 'It pains me to the soul to find myself in such company.'"

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Sept. 24, 1911.

The Third Meeting of the German Urologic Society in Vienna

This society convened in Vienna on September 17 and lasted three days which were devoted to a great deal of scientific and other valuable work. The president, Professor Zuckerkandl (Vienna), welcomed the guests, who were also entertained at a concert by the doctors' orchestra of Vienna. A notable feature of this congress was the absence of the usual distracting social diversions, which have been deplored so often after previous congresses. In the unanimous opinion of all present the work done was of a high character. The part played by the Vienna school of urologists and anatomists was very brilliant, but the internists of this city were conspicuous by their passive attitude. A *Festnummer* of the *Wiener medicinische Wochenschrift*, containing numerous articles by eminent surgeons, was distributed among the members and received much attention. The committees for the next meeting (which will take place in 1913 in Berlin) were elected on the last day; von Koranyi and Oberländer were made vice-presidents, while Casper was elected president in place of Zuckerkandl. Only a few of the more interesting chapters of the transactions will be mentioned. Great attention was paid to the discussion on "Permanent Results of Removal of Tuberculous Kidney," which was introduced by Israels (Berlin) and Wildbolz (Berne). Both surgeons urged the necessity of removal of the diseased kidney as early as possible, provided the other kidney be normal. Tuberculin should not be employed, as it might hasten the course of disease, or cause valuable time to be lost in waiting. The majority of those present were in favor of these measures and from the figures mentioned in the discussion it appeared that the mortality following the operation is low, the benefit to the patient high, the prognosis good in early cases. Blum mentioned that tuberculous meningitis is a much more frequent complication of tuberculosis of the kidney than, for instance, of pulmonary phthisis.

The discussion following Casper's paper on prostatectomy was of great interest. The authors agreed as to the comparative safety of the operation, even in very aged persons (80-88 years), provided that no septic focus had already weakened the patient excessively. Regarding the method of operation, each surgeon has to find out which way suits him best, although Freyer's enucleation seems to be the most reliable one. Certain connections between the prostate and diabetes were studied by Necker (Vienna). Dr. Götzl (Prague) has made experiments relating to anaphylaxis caused by repeated injections of testicular extracts. He has found that the relations between man and animal are of the nature of specificity of organs, but not of the genus, or in other words, that the extract of a human testicle acts on the animal in the same way as the extract of the animal's testicle. He therefore expects that it will be possible to influence the human organism by extracts from animals' testes.

The present position of the urologist in regard to urethroscopy was discussed by Oberländer (Dresden) and Wossidlo (Berlin), and in regard to cystoscopy by Paschkis (Vienna) and Gross (Vienna). These two diagnostic methods are at present indisputable and must be used in every case, especially where the symptoms are masked, but they seem to be a little neglected by surgeons on account of the results obtained by kidney surgery. The value of vaccines was illustrated in a paper by Dr. Reiter (Berlin), who found them very useful in *B. coli* infections of the urinary organs of grown-up persons, less so in children. Bilharziasis was demonstrated and discussed in a paper by Dr. Pfister (Cairo), who also showed several specimens from ancient Egypt, proving that the disease was known in those times when a special goddess of Bilharzia was worshiped in Upper Egypt.

A very valuable addition to the papers was the demonstration, by Professor Tandler, of anatomic preparations dealing with the organs in question. These demonstrations were made in his anatomic laboratory, and the dissections elicited the unanimous admiration of the audience. Especially the relations of the female ureter to the uterus, and the changes to which it is subject during pregnancy, were most clearly visible. And with these demonstrations the congress came to an end.

Miscellany

REINFORCED COTTON WADDING

A New Material for Use Under Plaster-of-Paris Dressings

Robert D. Maddox, M.D.
CINCINNATI

I have had made, for use under plaster-of-Paris dressings as a protective or padding, a new material, which, judging from the experience of others and myself, I find to meet the desired conditions more nearly, and to be, because of its cheapness, convenience, elasticity and accuracy of application, superior to anything that may be had at present for this purpose, with the exception of stockinet and felt, as especially indicated.

This material is essentially a good grade of cotton wadding starch-glazed on one side, which is reinforced by attaching to the other side a coarse gauze by means of starch size, so as to form a double-faced fabric of single thickness, one side of which is gauze, and the other cotton wadding.

The wadding is of two thicknesses, technically known as two- and four-pound weight, in order to provide a light or heavy protection as is indicated, while the starch-glazed face renders the dressing reasonably non-absorbent. In laying down the wadding, long-fibered, commercially clean cotton has been used, which gives a resilient elasticity and reduces packing or "caking," with subsequent loosening of the dressing, to a minimum, while making the dressing soft and non-irritating. The cost of this material will probably be about the same, weight for weight, as that of the ordinary cotton batting or sheet wadding that is now used and less than that of canton flannel. For convenience, the rolls have been made 6 yards long by 36 inches wide, from which pieces of suitable widths, usually 3 to 6 inches, may be cut as required by means of a sharp knife, and applied spirally as an ordinary roller bandage, face side to skin, with edges either in apposition or overlapping; or a piece may be cut of sufficient size to make a continuous covering of single thickness over the part, the edges of the material being drawn together and fastened by means of a needle and thread.

The length of the piece so cut should be slightly longer than that of the plaster in order that it may be turned back and caught by the last turns of the plaster bandage to finish the top and bottom of the cast. A preliminary report of this material was deemed necessary, owing to the fact that, through error, some of this reinforced wadding made for experimental purposes was sold before the experimental work was completed.

I have made, experimentally, a similar combination of starch gauze and sterile cotton, surgically clean and highly absorbent, and believe it to be an ideal material for all forms of surgical dressings, particularly in conditions in which heavy dressings are required.

Comparative Chances of Life of the Sexes.—A noted English statistician has calculated that of two children, a boy and a girl, born on the same day, the boy will have only seventeen chances against eleven of living one year, while the girl will have twenty-one chances against eleven. From the age of 5 to 15 there appears to be but little difference, but from 15 to 19 the critical period in the life of the female, the boy will have 269 chances and the girl 277 chances of living against one of death. This advantage in favor of the female increases, especially from 35 to 75, when the ratio drops slightly till after 80, when the man will have only three chances of life against one of death, while the woman's chances will be much greater.—Stewart in *Medical Record.*

The Power of Heredity.—"He who inherits a predisposition to insanity," says Maudsley, "does not necessarily get it from a parent who happens to be insane—no, not even though his father was insane when he was begotten, or though in madness his mother conceived him. He gets it from where his parent got it—from the insane strain in the family stock."

Marriages

John Mason Little, M.D., Boston, Mass., to Miss Ruth Esther Keese of Ashburnham, Mass., at St. Anthony, N. F., October 1.

W. L. Delevan, M.D., to Miss Alfretta Bingley, both of Hagerstown, Md., at Martinsburg, W. Va., October 3.

Grosbeck Walsh, M.D., Cristobal, C. Z., to Miss Nancy Irvin of Ohio, in San Francisco, August 29.

William Oscar La Motte, M.D., Riverside, N. J., to Miss Sue C. Hall at Finksburg, Md., October 11.

Charles J. Skwor, M.D., Milladore, Wis., to Miss Rose Hennen of Fond du Lac, Wis., October 3.

William J. C. Lamb, M.D., to Miss Marie Antoinette Keller, both of Homestead, Pa., October 4.

Frederick Garrison, M.D., Baltimore, to Miss Catherine Soper, at Elkridge, Md., October 4.

John H. Morrison, M.D., to Miss Coila Myers, both of Kansas City, Mo., September 26.

Robert Russell Hollister, M.D., to Miss Susan Holdrege, both of Omaha, Neb., October 4.

John Albert Seabold, M.D., to Miss Delphine McMenamy, both of St. Louis, October 2.

Leo G. Bartels, M.D., to Miss Pauline Becker, both of St. Louis, October 1.

Deaths

Christopher C. Reid, M.D. Albany (N. Y.) Medical College, 1864; a member of the Medical Society of the State of New York; one of the founders of the Oneida County Medical Society, and first president of the Rome Medical Society; examining surgeon for the New York Central Lines for twenty-five years, consulting physician to the Rome Hospital and one of the incorporators of the Rome Home for the Aged, Indigent and Infirm; donor of the Nurses' Home and the new operating room to the Rome Hospital; died at his home in that city, aged 72.

Moses Craft Lathrop, M.D. Worcester (Mass.) Medical College, 1852; a member of the American Medical Association; said to have been the first surgeon in New Hampshire to operate for appendicitis; assistant surgeon of the Nineteenth Iowa Infantry; surgeon of the Fourth Engineers and Corps d'Afrique—Ninety-Eighth United States Colored Infantry—during the Civil War; president of the Dover Medical Society and vice-president of the New Hampshire Medical Society; died at his home in Dover, September 28, aged 81.

Neal Mitchell, M.D. Long Island College Hospital, N. Y., 1880; of Jacksonville, Fla.; a member of the American Medical Association, and formerly president of the Duval County (Fla.) Medical Society; a member of the state examining board for the fourth judicial district and of the Duval County Board of Health; a pioneer practitioner of Jacksonville and one of the heroes of the yellow fever epidemic of 1888; died at his summer home in Readfield, Me., September 30, from tuberculosis, aged 55.

Daniel Dechert, M.D. University of Pennsylvania, Philadelphia, 1871; for one term treasurer of Schuylkill County, Pa., and for twenty years coroner and deputy coroner; county medical inspector for the State Board of Health; a member of the Schuylkill County Medical Society; died at his home in Schuylkill Haven, October 4, from uremia, aged 65.

Charles William Spayd, M.D. U. S. War Board, 1861; University of Pennsylvania, Philadelphia, 1866; surgeon of the Fifty-Third Pennsylvania Volunteer Infantry, during the Civil War; physician of Luzerne County, Pa., from 1867 to 1872, and coroner from 1881 to 1884; died at his home in Wilkes-Barre, September 29, from diabetes, aged 71.

Luther M. Perkins, M.D. Missouri Medical College, St. Louis, 1886; a member of the Washington State Medical Association; formerly a member of the faculty of his alma mater and a member of the staff of the St. Louis City Hospital; died at his home in Tacoma, September 27, from locomotor ataxia, aged 56.

Benjamin Moody, M.D. Geneva (N. Y.) Medical College, 1868; Jefferson Medical College, 1869; a member of the Medical Society of the State of Pennsylvania; a veteran of the Civil War and for several years a school director of Mansfield; died at his home in that place, September 22, from nephritis, aged 69.

William Edwin Bonawitz, M.D. College of Physicians and Surgeons, Baltimore, Md., 1889; of Millerstown, Pa.; a member of the Medical Society of the State of Pennsylvania; died in Johns Hopkins Hospital, Baltimore, October 2, a few hours after an operation for the removal of gall-stones, aged 45.

Orrin Davis, M.D. Eclectic Medical Institute, Cincinnati, 1846; said to have been the oldest alumnus of that institution; for fifty years a practitioner of Attica, N. Y., and a professor in various eclectic medical colleges; died at his home in Sawtelle, Cal., September 27, aged 88.

Joseph Hervey Reynolds, M.D. Bellevue Hospital Medical College, 1864; a member of the American Medical Association; one of the oldest residents of Allegheny County, Pa.; a member of the staff of the Presbyterian Hospital, Bellevue; died at his home in that city, September 28, aged 89.

Arthur H. Thompson, M.D. New York Homeopathic College, New York City, 1861; the oldest practitioner of Lapeer, Mich.; four times mayor of the city and president of the local U. S. pension examining board; died at his home, September 26, from cerebral hemorrhage, aged 73.

Calvin Knox Smith, M.D. Rush Medical College, 1876; of Fort Washakie, Wyo.; a member of the American Medical Association; physician at the Shoshone Indian Reservation for twenty-five years; died at his home, October 1, from valvular heart disease, aged 57.

Henry Spring Strickland, M.D. College of Physicians and Surgeons, New York City, 1877; of Olympia, Wash.; a member of the Washington State Medical Association; died at the Minor Hospital, Seattle, September 23, from malignant disease, aged 58.

John W. Medaris, M.D. Willoughby (O.) University, 1845; (license, Indiana, 1897) a member of the Indiana State Medical Association; for fifty-three years a practitioner of Brookston; died at his home, September 21, aged 97.

E. C. Adams, M.D. Hahnemann Medical College, Philadelphia, 1886; of Duluth; formerly of Minneapolis; died in Duluth, April 7, from the effects of poison believed to have been self-administered with suicidal intent, aged 55.

Gilbert Gaudreau, M.D. Medical School of Maine, Brunswick, 1889; secretary of the Augusta (Me.) Board of Health; died at his home in that city, September 25, after an operation for appendicitis, aged 57.

Jesse Linnord Sammons, M.D. Starling Medical College, Ohio, 1885; a member of the American Medical Association; died at his home in Calis, W. Va., September 30, from cerebral hemorrhage, aged 52.

Camillo H. Machinek, M.D. Howard University, Washington, D. C., 1892; a member of the Medical Association of the District of Columbia; died in his apartments in Washington, October 3, aged 40.

Clarence L. Nichols, M.D. Hahnemann Medical College, Philadelphia, 1885; a specialist on diseases of the eye and ear; died at his home in Portland, Ore., September 26, from anemia, aged 50.

Eugene P. Lanthurn, M.D. Pulte Medical College, Cincinnati, 1882; of Stockton, Cal.; died in the San Joaquin County Hospital in that city, September 28, from tuberculosis, aged 53.

Sherman B. Hitt, M.D. Medical College of Ohio, Cincinnati, 1886; health officer of Greensburg, Ind.; died at his home in that city, September 26, from *angina pectoris*.

Davis Jefferson Foster, M.D. University of Nashville, Tenn., 1859; a Confederate veteran; died at his home in Paducah, Ky., October 1, from senile debility, aged 80.

Alexander M. Shields, M.D. University of Louisville, Ky., 1883; of Chaplin, Ky.; was shot and instantly killed in an affray at Chaplin, September 29, aged 56.

Andrew A. Allison, M.D. University of Tennessee, Nashville, 1888; of Edna, Tex.; died in a sanitarium in Houston, Tex., September 12, aged about 50.

John H. Walker, M.D. Miami Medical College, Cincinnati, 1868; died at his home in Oak Ridge, Mo., September 29, from heart disease, aged 71.

James E. Mahoney (license, Wisconsin, 1904), a practitioner since 1898; died at his home in Milwaukee, September 27, from heart disease, aged 45.

Isaac L. Kip, M.D. New York University, New York City, 1854; died at his home in New York City, October 6, from senile debility, aged 81.

Joseph Blakie Bishop, M.D. Washington University, St. Louis, 1866; died at his home in Athens, Tex., April 4, aged 73.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION.

CALCIUM PHENOLSULPHONATE (SULPHOCARBOLATE)

Report of the Council on Pharmacy and Chemistry

A subcommittee of the Council submitted this report:

The Council having voted to consider the eligibility of calcium phenolsulphonate (calcium sulphocarbolate) for inclusion with New and Nonofficial Remedies, the product as it is found on the market was examined in the chemical laboratory of the American Medical Association, with a view of establishing standards for this substance. The laboratory now submits its findings in the matter which show that, largely as a result of its efforts, a product of satisfactory quality is now on the market.

The phenolsulphonates (sulphocarbolates) are, probably, not very valuable as therapeutic agents. Calcium phenolsulphonate has little to recommend it over the official sodium phenolsulphonate, and it may be held as an unnecessary duplication of an official substance; yet its provisional inclusion in New and Nonofficial Remedies is recommended since it contains two radicals (the calcium and the phenolsulphonic) often given in certain conditions, and it may for that reason be found to have some advantage over sodium phenolsulphonate. Further, if the product be described in New and Nonofficial Remedies and standards of purity for it provided, this will have the effect of improving the quality of the product on the market.

It is recommended, therefore, that calcium phenolsulphonate (calcium sulphocarbolate), with the description herewith submitted, be accepted as a non-proprietary article, and that the products of the Abbott Alkaloidal Co. and of the Mallinckrodt Chemical Works be listed.

In order that physicians may appreciate the work of the Association's chemical laboratory and recognize the influence which it exerts on the improvement of the quality of medicines, it is recommended that publication of this report and of the report of the chemical laboratory be authorized.

This report was adopted and in accordance therewith the description of calcium phenolsulphonate appears on another page of this issue and the report of the chemical laboratory is published below.

W. A. PUCKNER, Secretary.

[CONTRIBUTION FROM THE CHEMICAL LABORATORY OF THE AMERICAN MEDICAL ASSOCIATION]

CALCIUM PHENOLSULPHONATE

W. A. Puckner and L. E. Warren

The examination of calcium phenolsulphonate (calcium sulphocarbolate) was taken up at the request of the Council. Tentative standards for the substance were prepared and after the examination of the specimens had been completed, these standards were submitted for criticism to several manufacturers of chemicals. At the same time the findings (for each manufacturer's product) which were not in accord with the proposed standards were submitted to the manufacturers interested.

The product was examined with reference to the residue on ignition, loss on drying at 100 C., freedom from arsenic and heavy metals, sulphates and uncombined phenol. Some of the specimens studied were purchased on the open market while others were furnished by the manufacturers. The tests for purity to which the product was subjected are as follows:

TESTS

An aqueous solution of the salt (1-100) should not respond to the time-limit test for *heavy metals* prescribed by the United States Pharmacopeia, 8th Revision.

An aqueous solution of the salt (1-100) acidified with a few drops of diluted hydrochloric acid should give no immediate turbidity after the addition of 1 c.c. of barium chlorid test solution (limit of *sulphate*).

If 5 gm. of the salt be percolated with 25 c.c. of ether in a small filter, the solvent allowed to evaporate spontaneously and the residue, if any, dissolved in 5 c.c. of water, the solution should not give a white precipitate on the addition of a few drops of bromin test solution (absence of *phenol*).

If dried at 100 C. (212 F.) for 1 hour the salt should not lose more than 2 per cent. of its weight (absence of an undue amount of *water*).

If from 0.5 to 1 gm. of the salt be dried to constant weight at 100 C. (212 F.) and the dried substance be slowly ignited in an uncovered crucible (care being taken that the contents be freely exposed to the air) until the weight becomes constant, the residue should amount to not less than 35.0 per cent., nor more than 36.0 per cent. of the weight of the dried substance.

The results of the examination[1] are tabulated below.

These results show that commercial calcium phenolsulphonate varies somewhat in purity and uniformity of composition. The formula commonly assigned to the salt in most text-books of pharmaceutical chemistry is $Ca(C_6H_5O_4S)_2+H_2O$. Theoretically such a salt should contain 4.45 per cent. of water and should yield 33.68 per cent. of residue on ignition. The above formula is given in Merck's Index (1907), yet the market product bearing the label of this firm was found to contain only 0.45 per cent. water and was therefore, not the monohydrated salt indicated by the formula.

The results of our examination were then transmitted to the firms whose products had been examined.

The Mallinckrodt Chemical Works, in replying, wrote that its manufacturing department was experimenting in an attempt to produce a phenol-free salt at moderate cost. Some time later a specimen of this firm's latest product was sent to the laboratory for examination. This specimen lost 0.44 per cent. of its weight on drying and the dried material yielded 35.24 per cent. of residue on ignition, results that were well within the limits suggested in the standards proposed. The specimen did not respond to the bromin-water test for phenols and both in color and odor was superior to the first specimen of this firm's that was examined.

The Abbott Alkaloidal Co., in submitting its brand of calcium phenolsulphonate, gave the same formula to indicate the composition of its product as is found in Merck's Index, namely, $Ca(C_6H_5O_4S)_2+H_2O$. When the specimen was dried at 100 C., however, it lost about 15 per cent. of its weight, showing that it had a much larger water-content than was claimed by the manufacturer. This result was verified also by the amount of residue found on ignition, which amounted to 30 per cent. of the weight of the undried specimen instead of 33.68 per cent. as is required by the formula of the salt containing 1 molecule of water. These laboratory findings

Brand.	Water (Loss at 100 C.).	Residue on Ignition (Calculated from Dried Specimen).	Color.	Odor.	Phenol Test.
M. C. W.[2]	0.42	35.18	Noticeably pinkish	Somewhat phenol-like	Distinct precipitation.
M. & Co.[3]	0.45	35.28	Very faintly pinkish	Distinctly phenol-like	Distinct precipitation.
A. A. Co.[4]	15.13	35.24	Faintly yellowish	Distinctly acetone-like	None.
P. W. R.[5]	0.41	35.42	Faintly pinkish	Odorless	Distinct precipitation.

[2] M. C. W. = Mallinckrodt Chemical Works.
[3] M. & Co. = Merck & Company.
[4] A. A. Co. = Abbott Alkaloidal Company.
[5] P. W. R. = Powers-Weightman-Rosengarten Company.

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[1] The details of the analysis will be sent on receipt of a stamped envelope; they will also be published in the Annual Report of the chemical laboratory.

were sent to the firm. No acknowledgment was received for nearly six months and then the company wrote questioning the chemists' results and asserting that its product contained "about 4.5 per cent." (theoretically 4.45 per cent.) of water instead of the 15.1 per cent. as had been reported by us. This, of course, was a reiteration of the claim made at the time the product was submitted to the Council. In its letter, the company stated that it was sending another sample of calcium phenolsulphonate for further experimentation. This specimen lost 1.93 per cent. of its weight on drying and the dried material gave 35.15 per cent. of ash on ignition; it did not respond to the bromin-water test for phenol. These later results indicated that, although the firm was ignorant of the composition of its own product, the second specimen complied with the proposed standard.

As the table shows, the products of Merck and Powers-Weightman-Rosengarten were both found to contain free phenol. These firms were advised of the laboratory's findings, but, beyond acknowledging the letters that were sent, they have taken no further action.

The results of the examination of calcium phenol-sulphonate illustrate what other examinations in the Association laboratory have so often shown, viz., that commercial products which are but little used and for which there are no authoritative standards for strength and purity, are also invariably unreliable in composition.

CONVICTIONS UNDER FOOD AND DRUGS ACT

In spite of the handicaps to which the Bureau of Chemistry has been subjected by the enemies of the pure food law both within and without the Department of Agriculture, many vicious frauds both in foods and drugs have been exposed and their perpetrators punished. The records of these cases are published by the Department of Agriculture in a series of leaflets known as "Notices of Judgment." Unfortunately these publications, like most government documents, do not reach the general public although they may be had for the asking. Recognizing this fact, The Journal has at different times abstracted the information given in the Notices of Judgment in an attempt to popularize this important work. The matter thus published has been reprinted both in pamphlet form[1] and in "Nostrums and Quackery"[2] making it available for public distribution.

Unfortunately not all the details that have been brought out in the various government investigations appear in these Notices of Judgment. When they were first issued, the information given was much more complete, but as Solicitor McCabe's influence gradually overshadowed the Bureau of Chemistry the data published by the government in the Notices of Judgment became more meager until only the barest facts now appear in these publications. As will be remembered, at the investigation recently made of the Bureau of Chemistry, it was shown that McCabe not only "edited" the various Notices of Judgment before publication but, in at least one case, falsified the record apparently to avoid hurting the feelings of those food manufacturers that find it necessary to use benzoate of soda in their products! This week we publish brief abstracts of a few more cases of interest not only to physicians but also to the public.

MUNYON'S REMEDY

Every reader of newspapers knows of Munyon—of the pompadour and uplifted finger. For years this quack has been humbugging the public but Nemesis in the form of the Bureau of Chemistry finally overtook him. Some time ago Munyon's Homeopathic Home Remedy Company shipped at different times two consignments of its nostrums. The first consignment was labeled "Munyon's Asthma Cure," which was said to "permanently cure asthma." The government chemists analyzed this "cure" and found it to consist of sugar and alcohol. The second consignment contained two preparations one of which was labeled "Munyon's Special Liquid Blood Cure, Price $2.00." Some of the claims made for this nostrum were:

> "Eradicates Syphilis and Scrofula from the Blood, and acts as a tonic to the general system.
>
> "It cures enlarged tonsils or glands, ulcers and all forms of sores and eruptions.
>
> "It cures Syphilitic Diseases of the Bones, syphilitic ulcers, syphilitic and scrofulitic skin diseases, removes all impurities from the blood, and tones up the whole system."

This was analyzed in the Bureau of Chemistry and found to contain a trace of corrosive sublimate, the balance being about equal parts of potassium iodid and milk sugar.

The other preparation in the same consignment with "Munyon's Special Liquid Blood Cure" was "Munyon's Blood Cure." The claims for the latter were:

> "Munyon's Blood Cure will positively cure all forms of Scrofula, Erysipelas, Salt Rheum, Eczema, Pimples, Syphilitic Affections, Mercurial Taints, Blotches, Liver Spots, Tetter and all skin diseases."

It would also do several other things—according to Munyon. Analyzed by the government chemists this marvelous remedy was found to consist of sugar! All of these preparations were declared misbranded because of the false therapeutic claims made for them, for at the time this case was before the courts the Supreme Court had not emasculated the Food and Drugs Act. In other words, Munyon was charged with lying about his sugar pills and similar nostrums. He pleaded guilty and was fined $200 in each of the three cases.—[*Notice of Judgment, No. 874.*]

QUININ WHISKEY

The Quinin Whiskey Company, Louisville, Ky., shipped in interstate commerce some of its product "Quinin Whiskey." In addition to claiming certain medicinal properties for this preparation, the label bore the following statement:

> "Alcoholic strength 85 per cent. Quinin 1¼ grains per ounce. Guaranteed under the Food and Drugs Act," etc.

Analyzed by the chemists at Washington, it was found to contain only 42 per cent. of alcohol instead of 85 as stated on the label and instead of having 1¼ grains of quinin to the ounce it contained only 1/75 of a grain. Naturally the stuff was declared misbranded. The defendant pleaded guilty and was fined $25 and costs.—[*Notice of Judgment, No. 885.*]

INDIAN TAR BALSAM

John B. Hurtt and Thomas D. Hurtt of Baltimore, who did business under the name Indian Tar Balsam Company, shipped some of their product into the District of Columbia. It was said to be:

> "The never failing remedy for the cure of coughs, colds, sore throat, and all kinds of throat and lung affections."

When analyzed, it was found to consist of about 60 per cent. of oil and 40 per cent. of water, the oil floating and being partly volatile, with an odor of tar, and the water containing morphin derivatives. As the labels bore no statement regarding the quantity or presence of morphin or its derivatives and as the claims for its curative properties were false and misleading, the stuff was declared misbranded. The defendants pleaded guilty and were fined $25. [*Notice of Judgment, No. 898.*]

STANGE'S GENUINE ANTISPASMODIC OR CRAMP DROPS

This nostrum was made by E. J. and Minnie Abel of Chicago and the labels purported that the article was a cure for spasms, cramps, vertigo, pressure on the heart and other things. Analysis showed it to contain alcohol, ether and oil of peppermint. As such a mixture would not cure the various disorders mentioned on the label and as no statement regarding the amount of alcohol and ether appeared on the bottle the nostrum was declared misbranded. The Abels pleaded guilty and were fined $25 and costs.—[*Notice of Judgment, No. 903.*]

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[1] The pamphlet, "Convictions Under the Food and Drugs Act," is sold at 6 cents the copy.

[2] "Nostrums and Quackery," press of the American Medical Association, price $1.00

BRADBURY'S CAPI-CURA

Bradbury's Capi-Cura was a so-called headache cure sold by James J. Cramer who did business as the Cramer Drug Company of Boston. The preparation was of the usual acetanilid type but contained no statement on the label indicating the presence of this dangerous drug. It was therefore declared misbranded and on Cramer's pleading guilty a fine of $25 was imposed.—[*Notice of Judgment, No. 906.*]

SEPTICIDE

Septicide was an impudent fraud made in Milwaukee and sold as a cure for practically everything from "cancer" to "chapped hands," and from "suppressed menstruation" to "sweaty feet." It was a nostrum of the typical "cure all" type. When analyzed by the government chemists it was found to consist of water with small quantities of sulphur dioxid and sulphuric acid and a trace of nitrates. As Dr. Wiley's assistants got after this vicious fraud before the Supreme Court decision crippled the pure food law, it was possible to convict the Septicide Company of misbranding. Orange Williams, secretary and treasurer of the concern, pleaded guilty to the falsehood and the court imposed a fine of $10.—[*Notice of Judgment, No. 907.*]

NYAL'S HEADACHE WAFERS

This is another nostrum of Frederick Stearns & Co. of Detroit. Each of these "headache wafers" contains 4 grains of acetanilid and 1 grain of caffein alkaloid. In spite of the presence of these powerful drugs, the label stated:

> "It does not produce any bad after effects nor does the system become habituated to its use so as to produce a noxious drug habit."

The stuff was declared misbranded first, because the word Nyal was fictitious; second, in that it was not a cure for headache; third, because it would produce bad after effects, and fourth, because it would also produce a noxious drug habit. Wayland Stearns, second vice-president of Frederick Stearns & Co., entered a plea of nolo contendere and was fined $2.—[*Notice of Judgment, No. 908.*]

INFALLIBLE HEADACHE TABLET

This was another acetanilid product and was made by the Infallible Headache Co., Columbia Cross Roads, Pa. It was said to be an infallible cure for a number of conditions for which it was not a cure and it was further claimed "neither will they cause heart failure." On both counts they were declared misbranded. The defendant pleaded guilty and paid a fine of $25 and costs.—[*Notice of Judgment, No. 919.*]

(*To be continued*)

Correspondence

A Conjecture Respecting the Cause of Beriberi

To the Editor:—I was much interested in reading the article commenting on beriberi in The Journal (Oct. 7, 1911, p. 1213). I am sorry to say that I cannot agree with the theory of beriberi being caused only by white milled rice. Beriberi is, of course, a true neuritis, and phosphorus is certainly removed in taking away the outer layer of the rice paddy, but my experience was that when proper precaution was taken in harvesting and caring for the rice after harvest —storing it in a dry place—that there was very little or no beriberi. Witness the Danish captain in the Siamese navy who personally told me that he had never had a case of beriberi on board his ship in seventeen years' service, and who personally bought the best rice and was careful as to its storage in a dry place: also the fact that beriberi usually is epidemic in the far East in jails, asylums, tin mines and barracks, where proper care is not taken in storing the rice in a dry place. My own experience covers many thousands of cases and on investigation I always found that the rice-supply had been stored in a wet or damp place. Among the best Siamese families, who live largely on a rice diet, beriberi was almost unknown, but their servants living in the basements of their palaces, where rice was stored in a damp place, suffered greatly from the disease. Also, beriberi is far more prevalent after a very wet rainy season when the cultivators have had trouble during and after harvest to keep their rice dry. This was shown at Chiengmai, in the north of Siam, several years ago, where, after the wettest season in twenty years, there was an epidemic of beriberi and hundreds of people died of the disease. Now, these people in the far North do not use the white milled rice but the rice husked in their crude pounding mortars which retain almost all of the outer layers of the paddy, and yet they contracted the disease by taking the rice which is supposed to prevent it and which contains the phosphorus needed. Also, on the side of the river where the ground was higher and the floods less, there was very little of the disease, but on the side where the floods were great the disease raged fiercely.

I simply submit my observations which covered five years of time and many thousands of cases.

Charles S. Braddock, New York.
Late Chief Medical Inspector Royal Siamese Government.

The Treatment of Rhus Poisoning

To the Editor:—I wish to report on a treatment for ivy poisoning used with success on three persons, two patients and myself. Since boyhood, I have been subjected to at least yearly poisoning from ivy, sometimes most severely, and naturally I tried all the "sure cures" of the laity and, after studying medicine, all the treatments found in medical literature.

Last August, however, I tried, as a palliative measure to allay the itching and irritation, a standard commercial solution of formaldehyd as put up in pound bottles, and obtained immediate and lasting relief. The first application, made in the morning, to the hands and arms, caused no pain; the second application, made in the afternoon, to the scrotum, caused intense pain which disappeared, however, after cold applications for ten or fifteen minutes. A patient whose eyelids were involved was relieved after one application. To keep the solution from the conjunctiva and cornea, petrolatum was placed on the free border of the lids, among and $\frac{1}{8}$ inch beyond the cilia. After the solution was applied and had become dry, petrolatum was applied all over the eyelids, to prevent formaldehyd vapors getting into the eye. Wet cotton pledgets were placed in each vestibule; a wet towel was used to keep the fumes from the mouth. In another patient, whose hands and side of face, including the external ear and canal, were involved, there was no pain from the treatment to hands and face but there was considerable pain from the application to the ear. This, however, passed off and no other treatment was necessary. It occurred to me afterward that a weaker solution would have been just as effective to the scrotum and external canal of ear. After five or six days I used hydrogen peroxid to the parts painted, which removed the dry and somewhat discolored skin, leaving a perfectly smooth surface.

C. E. Purcell, M.D., Paducah, Ky.

Maggots in the Ear

To the Editor:—With reference to a report on "Screw Worms in the Ear" (The Journal A. M. A., Oct. 7, 1911, p. 1207), I wish to report the following: A patient showed me a maggot which, he said, had crawled out of his left ear during the night; he also complained of sleeplessness for the two preceding nights on account of pain in his ear. I discovered a white, wriggling mass behind the isthmus of the external canal. After several unsuccessful attempts to remove this mass by various methods, I resorted to a 4 per cent. solution of cocain, which removed eight maggots, making a total of nine from one ear. The entire canal and membrana tympani were severely inflamed. Recovery was uneventful.

John A. Huth, M.D., Natrona, Pa.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

INDICAN IN THE URINE

1. *To the Editor:*—Please give reference to an authoritative work on the presence of indican in the urine, its cause and the diet necessary for its elimination. W. Fletcroft, Paterson, N. J.

2. *To the Editor:*—Please describe a method for the quantitative estimation of indican in the urine.
L. W. Howe, Coldwater, Mich.

Answer.—1. We do not know of any work treating this subject specially. It is discussed in books on clinical diagnosis and on physiologic chemistry.

2. There is no very good method for the determination of the amount of indican in urine. A colorimetric method is sometimes used, in which the indican is set free and converted into indigo by the action of an oxidizing agent, such as calcium hypochlorite (chlorid of lime), or Obermayer's reagent, which consists of a 0.2 per cent. solution of ferric chlorid in concentrated hydrochloric acid. The coloring matter thus produced is extracted by chloroform and the color of the chloroform extract compared with a standard blue color, such as indigo or Fehling's solution. The following approximative method has been recommended: To a hundredth part of the whole day's excretion add an equal volume of Obermayer's reagent and 5 c.c. of chloroform. Shake a minute or more and allow to settle. Compare the color with that of a strong Fehling's solution, taken as 100, as a standard.

WASSERMANN REACTION

To the Editor:—1. To what extent is the Wassermann reaction positive in locomotor ataxia?

2. How does this percentage compare with that of the reaction in undoubted syphilitic disease? Henry Power, Spokane, Wash.

Answer.—1. It is impossible to give a definite answer to this question. It will probably vary from 65 to 90 per cent., taking the various workers the world over. The reaction in locomotor ataxia is less frequently positive than in secondary untreated syphilis or in cases which present demonstrable syphilitic lesions of the nervous system.

2. In very early syphilis, the primary stage, the Wassermann reaction is low—perhaps 60 per cent. In marked secondary untreated syphilis the reaction is high—practically 100 per cent. In late nervous syphilis, paresis and syphilitic brain disease the percentage is high—90 to 100 per cent. In locomotor ataxia as named above. In late syphilis of the bones, gummatous degeneration of the skin, etc., the reaction again is low—50 to 60 per cent. The location of the lesion, the duration of the disease, and especially whether it has been or is being treated, may modify the reaction, either positively or negatively.

NO MORE COPIES OF REPORT OF CHICAGO VICE COMMISSION

To the Editor:—Can you tell how I may secure a copy of the report of the Chicago Vice Commission to which you have referred several times in The Journal? L. A.

Answer.—In our review of this book (June 10, 1911, page 1743) we gave the street address of the commission. The chairman of the commission recently wrote us: "The edition of the report is exhausted and there are no more copies for distribution. The commission has completed its labor and has gone out of existence."

PYROLIGNEOUS ACID AND RHEUMATISM

To the Editor:—Please state whether or not pyroligneous acid is of any therapeutic value in the treatment of rheumatism, gout and neuritis, and if so the dosage, method of administration, etc.
V. D. Washburn, Wilmington, Del.

Answer.—Pyroligneous acid is simply a crude wood-vinegar containing about 6 per cent. of acetic acid and presumably would have as much value as a therapeutic agent as acetic acid or vinegar.

PLANS WANTED FOR COMBINED RESIDENCE AND OFFICE

To the Editor:—I am proposing to build a combined residence and office. On looking for a book of plans that would be suggestive I fail to discover any such book, and I have not been able to get in touch with any published plans that bear on this class of buildings. Certainly many physicians have put up such houses and it is barely possible that some of your many readers may be able to give me some hints. H. M. Ferguson, Morris, Ill.

SALVARSAN ACCIDENTS

To the Editor:—Kindly give me references to reports of deaths from the intravenous injection of salvarsan.
Edwin Walker, Evansville, Ind.

Answer.—The following are references to fatal cases or cases accompanied by alarming symptoms:

Finger, E.: By-Effects of Salvarsan, *Berl. klin. Wchnschr.*, May 1, 1911; abstr. in The Journal, June 10, 1911, p. 1765.

Martius, K.: Fatalities After Injection of Salvarsan in Cardiovascular Disease, *München. med. Wchnschr.*, May 16, 1911; abstr. in The Journal, June 24, 1911, p. 1909.

Leven: Mishaps with Intravenous Salvarsan Injections, *Med. Klinik*, May 28, 1911; abstr. in The Journal, July 1, 1911, p. 54.

Mann, C.: Salvarsan Accident, *München. med. Wchnschr.*, Aug. 1, 1911; abstr. in The Journal, Sept. 9, 1911, p. 935.

Fischer, B.: Case of Fatal Hemorrhagic Encephalitis Following Injection of Salvarsan, *München. med. Wchnschr.*, Aug. 22, 1911; abstr. in The Journal, Sept. 30, 1911, p. 1171.

Kannengiesser: Fatality Following Injection of Salvarsan, *München. med. Wchnschr.*, Aug. 22, 1911; abstr. in The Journal, Sept. 30, 1911, p. 1171.

Hoffmann, A.: Jaundice with Fatal Outcome After Salvarsan Treatment, *München. med. Wchnschr.*, Aug. 15, 1911.

PAPER-BAG COOKERY

To the Editor:—Please give information about paper-bag cookery and where particulars concerning it may be obtained. L. H. K.

Answer.—It is asserted that by this method of cooking many articles, such as meats, fish, poultry, birds, many vegetables, fruits, cereals, pies, cake and other desserts and even soup, may be cooked in paper bags, with the advantage of retaining all the flavors of the foods, and with no subsequent labor in washing the cooking utensils. The present method seems to have been developed by Nicolas Soyer, a chef of London, whose exposition of the method, together with recipes for preparing many dishes, is contained in a small book published in England and obtainable through book-dealers in this country at 60 cents. Any bag may be used, but the food is apt to taste of the paper, so bags of specially prepared paper have been made.

CARBON DIOXID IN KELOIDS

To the Editor:—Can you inform me, through your Queries and Minor Notes column, as to the value of carbon dioxid crayons in the removal of keloids? Are the keloids any less apt to return following their removal by this method than after their removal by the knife?
C. C. H.

Answer.—Hoffman and others have had good results in keloid from freezing with solid carbon dioxid, but the method has not had enough trial to be certain of the ultimate results. Pusey, who cites Hoffman (*Jour. Cutan. Dis.*, July, 1910) does not believe the results from solid carbon dioxid are likely to be as good as those obtained from *x*-rays. Removal of keloids by excision is as a rule unsuccessful and is not advisable; they return larger than before.

OLEOZONE — SEROTHERAPY OF TYPHOID

To the Editor:—We have a doctor here who is claiming to cure pulmonary tuberculosis. His treatment consists of the use of Ozonoid tablets put up by C. S. Roberts, New York City. Please give me any information you can regarding these tablets.

2. Please give me the latest literature on the serum and vaccine treatment of typhoid fever.
J. W. Lindley, M.D., Natoma, Kan.

Answer.—1. Ozonoid tablets is one more name for a much-christened fake to which The Journal has given a good deal of space. Its first name was Hydrocine. When analyzed in the Association's laboratory, the chemists reported that they found that "each 29.5 gr. Hydrocine tablet contains 28 gr. of cane sugar, small quantities of volatile oils and a trace of pancreatin." The stuff originated, it seems, with one C. E. Getsinger, who organized what was known as the Medical Food Company. The commercial possibilities in selling an odoriferous sugar-mixture as a "consumption cure" apparently appealed to one Charles S. Roberts, a physician of Syracuse, N. Y., who, with the help of Charles H. Goddard, and others, incorporated the Hydrocine Company for the purpose of exploiting Getsinger's "treatment." Goddard, it will be remembered, was the man who organized that cooperative "patent-medicine" concern known as the A. D. S.—the American Druggists Syndicate—of which Roberts was one of the officers. Getsinger and Roberts later seemed to have had a disagreement and the former marketed his own product under the name of Oxydase. Roberts changed the name of Hydrocine to Oleozone and apparently had the stuff made by the A. D. S.

—at least it bore the same serial number as that given the A. D. S. products. Coincident with these changes in the name, another concern came into existence—the Cowles Institute, said to be operated by one H. L. Cowles. This also dispensed "oxygenated products" for the cure of consumption. A little later Cowles seems to have changed the name of his concern to the Hemavitæ Company and to have rechristened his product Hemavitæ.

The latest change in the name of Getsinger's product is Oxidaze, put out by the American Oxidaze Company. This company claims to have purchased the formula of Getsinger, who is no longer connected with the business. The concern is, we understand, controlled by a group of business men, although one of the individuals connected with it—Eugene Howard—is said to be a physician. Roberts, apparently, is still selling the stuff under the name Oleozone. In a revised price-list, sent out by Roberts a few days ago, he notifies the users of his nostrum that the price of Oleozone has gone up. As he puts it: "Increase in the cost of some of its basic constituents has made necessary a slight advance in the price of Oleozone." Thus, it appears that housewives are not the only sufferers from the increased cost of sugar.

2. The following references on the serum treatment of typhoid fever may prove of value:

Kean, J. R.: The Sanitary Record of the Maneuver Division, THE JOURNAL, Aug. 26, 1911, p: 713.
A Triumph of Preventive Medicine, Editorial, THE JOURNAL, Aug. 26, 1911, p. 744.
Russell, F. F.: Antityphoid Vaccination in the American Army, *Jour. Am. Public Health Assn.*, July, 1911; abstr. in THE JOURNAL, Aug. 26, 1911, p. 767.
Bass, C. C.: Antityphoid Vaccination; abstr. in THE JOURNAL, July 8, 1911, p. 154.
The Present Status of Antityphoid Vaccination, Editorial, THE JOURNAL, June 24, 1911, p. 1884.
Gallison, J. G.: Vaccine Treatment of Typhoid, *Med. Rec.*, June 17, 1911; abstr. in THE JOURNAL, July 8, 1911, p. 167.
Courmont, J., and Rochaix, A.: Vaccination by Way of the Intestines Against Typhoid, *Presse méd.*, June 3, 1911; abstr. in *THE JOURNAL, July 8, 1911, p. 172.*
Lambert, A.: Typhoid and Its Prevention by Vaccination, THE JOURNAL, June 3, 1911, p. 1679.
Meakins, J. C., and Foster, L. S.: Treatment of Typhoid by Vaccines, *Canad. Med. Assn. Jour.*, June, 1911; abstr. in THE JOURNAL, July 15, 1911, p. 250.
Vaccination Against Typhoid Fever, THE JOURNAL, May 20, 1911, p. 1460.
Watters, W. H., and Eaton, C. A.: Vaccine Therapy of Typhoid, *Med. Rec.*, May 6, 1911; abstr. in THE JOURNAL, May 27, 1911, p. 1613.
Fletcher, J. P.: A Safe and Rapid Method for the Administration of Antityphoid Vaccine, THE JOURNAL, April 8, 1911, p. 1016.
Vincent, H.: Vaccination Against Typhoid, *Bull. Acad. de méd.*, Paris, Jan. 24, 1911; abstr. in THE JOURNAL, March 11, 1911, p. 781.
Roget, A., and Ragriffoul: Serotherapy of Typhoid Fever, *Presse méd.*, Dec. 24, 1910; abstr. in THE JOURNAL, Jan. 28, 1911, p. 308.
Anders, J. M.: The Use of Typhoid Vaccines in Typhoid Fever, THE JOURNAL, Dec. 10, 1910, p. 2023.
Foster, G. B., Jr.: Antityphoid Vaccination, THE JOURNAL, Nov. 19, 1910, p. 1808.
Hollis, A. W.: Treatment of Typhoid with Vaccine, *Med. Rec.*, N. Y., Oct. 8, 1910; abstr. in THE JOURNAL, Oct. 22, 1910, p. 1498.
Gosman, G. H. R.: The Present Status of Antityphoid Inoculation, THE JOURNAL, Oct. 1, 1910, p. 1169.
Semple, D.: Hypodermic and Intramuscular Inoculation of Bacterial Vaccines as Demonstrated by Experiments with Typhoid Vaccine, *Lancet*, London, June 25, 1910; abstr. in THE JOURNAL, July 23, 1910, p. 354.
Hartsock, F. M.: Antityphoid Vaccination, Result of 1,100 Inoculations, *THE JOURNAL, June 25, 1910, p. 2123.*
Sappington, S. W: Typhoid Vaccines and Opsonins, *Jour. Med. Research*, June, 1910; abstr. in THE JOURNAL, July 23, 1910, p. 351.
Vincent, H.: Vaccination of Man Against Typhoid Fever, *Bull. Acad. de méd.*, Paris, June 21, 1910; see Paris Letter in THE JOURNAL, July 9, 1910, p. 138.
Richardson, M. W.: Vaccine Therapy in Typhoid; abstr. in THE JOURNAL, June 4, 1910, p. 1892.
Russell, F. F.: Antityphoid Vaccination the Immediate Results of the Administration of 3,600 Doses, *Bull. Johns Hopkins Hosp.*, March, 1910; abstr. in THE JOURNAL, April 16, 1910, p. 1337.
Herz, A.: Serotherapy of Typhoid and Its Influence on Agglutination, *Wien. klin. Wchnschr.*, Dec. 16, 1909; abstr. in THE JOURNAL, Jan. 22, 1910, p. 332.

The Public Service

Medical Department, U. S. Army

Changes for the week ended Oct. 14, 1911.

Chase, C. L., M.R.C., relieved from duty at Fort Oglethorpe and ordered to Fort Dade, Fla., for duty.

Whaley, A. M., captain, arrived at Fort Monroe, Va., for duty.

Reddy, J. J., lieut., left Fort Jay for temporary duty at Fort Wood during absence of Lieutenant Pascoe.

Stone, F. P., D.D.S., ordered to visit certain posts in Department of Gulf from Oct. 15, 1911, to July 1, 1912. (S. O. 31, Oct: 1, 1911, E. D.)

Hart, W. L., on arrival at San Francisco from the Philippine Islands will proceed to Fort Sam Houston, Texas, for duty.

Clayton, G. R., M.R.C., reports his departure from Fort Sheridan, Ill., on leave of absence for one month and ten days.

Mount, J. R., M.R.C., arrived at San Francisco en route to Schofield Barracks, H. T.

Duncan, W. A., captain, reports return to medical supply depot Washington, D. C, from leave of absence.

Eastman, William R., captain, left medical supply depot, New York, for Fort Riley, Kan., for duty.

Shockley, M. A. W., major, on arrival at San Francisco will proceed to Fort Niagara, N. Y., for duty.

Webber, H. A., major, on being relieved by Major Shockley will proceed to Fort Logan H. Roots, Ark., for duty.

Feely, J. F., A.D.S., ordered to Fort Slocum, N. Y., for duty.

Sherwood, Charles E., A.D.S., ordered to Columbus Barracks, Ohio, for duty.

Siler, J. F., *captain, relieved from duty at medical supply depot,* New York, about Nov. 5, 1911, and ordered to Fort Sam Houston, Texas, for duty.

Thomason, H. D., captain, will proceed to Trenton, N. J., about Oct. 17, 1911, in connection with the reorganization of the militia of New Jersey.

Webber, H. A., major, granted leave of absence for one month, about Oct. 14, 1911.

Bowen, A. S, lieut., arrived at Fort Snelling, Minn., from San Antonio.

Wolven, F. H., D.S., arrived at Vancouver Barracks from Fort Liscum, Alaska.

Boak, S. D., D.S., reports his arrival at West Point, N. Y., from leave of absence.

Woodbury, J. H., major, left Fort Screven on detached service at Atlanta.

Mason, G. L, D.S., left Fort Snelling for Fort Omaha, Neb.

Maus, L. M., colonel, returned to his station, Chicago, from leave of absence.

Medical Corps, U. S. Navy

Changes during the week ended Oct. 14, 1911.

Stitt, E. R., surgeon, detached from the bureau of medicine and surgery, navy department, and ordered to duty at the naval medical school, Washington, D. C.

Riggs, C. E., surgeon, detached from the naval academy and *ordered to the Wabash.*

Evans, S. G., surgeon, ordered to the naval academy.

Gill, J. E., P. A. surgeon, detached from the *Wabash* and ordered to the *Des Moines*

Hough, F. P. W., P. A. surgeon, detached from the *Des Moines* and ordered home to await orders.

Wheeler, W. M, surgeon, ordered to the naval hospital, Washington, D. C., for treatment.

Brownell, C. DeW., surgeon, ordered to duty as senior medical officer at the navy-yard, Portsmouth, N. H., and to additional duty in command of the naval hospital at that place.

Beeching, C. L, asst.-surg., ordered to duty under instruction at the naval medical school, Washington, D. C.

Hayes, O, A. A. surgeon, ordered to the marine recruiting station, Denver.

Asserson, F. A., surgeon, ordered to duty at the naval hospital, Boston.

Holloway, J. H, P. A. surgeon, ordered to the naval hospital, Las Animas, Colo., for treatment.

U. S. Public Health and Marine-Hospital Service

Changes for the fourteen days ended Oct. 11, 1911.

Perry, J. C., surgeon, detailed to represent the Service at the Fifth International Sanitary Conference of American Republics to be held at Santiago, Chile, Nov. 5-12, 1911.

Anderson, J. F., P. A. surgeon, detailed to represent the Service at the meeting of the National Committee on Milk Standards *to* be held under the auspices of the New York Milk Committee in New York City, Oct. 4-6, 1911.

McLaughlin, A. J., P. A. surgeon, directed to proceed from Chicago to Topeka, Kan., on special temporary duty.

Rucker, W. C., P. A. surgeon, detailed *to represent* the Service at the next annual meeting of the Mississippi Valley Medical Association to be held at Nashville, Tenn., Oct. 17-19, 1911.

Salmon, T. W., P. A. surgeon, granted six months' leave of absence, without pay, from Oct. 18, 1911.

Pettyjohn, Joseph, P. A. surgeon, granted two months' leave of absence from Sept. 16, 1911.

Frost, W. H., P. A. surgeon, directed to proceed to Cincinnati and Covington, Ky., on special temporary duty.

Bryan, W. M., P. A. surgeon, granted seven days' leave *of* absence from Oct. 3, 1911.

Grimm, R. M., asst.-surgeon, detailed to represent the Service at the next annual meeting of the Medical Association of the Southwest to be held in Oklahoma City, Okla., Oct. 10-12, 1911, and the Mississippi Valley Medical Association to be held in Nashville, Tenn., Oct. 17-19, 1911.

Bingham, E. O., acting asst.-surgeon, granted fifteen days' leave of absence from Oct. 7, 1911.

Cheney, E. L., acting asst.-surgeon, granted fourteen days' leave of absence from Oct. 12, 1911.

Coffee, J. H., acting asst.-surgeon, granted twenty days' leave of absence from Oct. 15, 1911.

Keiller, William, acting asst.-surgeon, granted twenty days' leave of absence from Sept. 26, 1911.

Moorer, M. P., acting asst.-surgeon, leave of absence for fourteen days from Sept. 5, 1911, amended to read eleven days from Sept. 9, 1911.

Ransom, S. A., acting asst.-surgeon, granted leave of absence for a further period of one month from Dec. 1, 1911, without pay.

Underwood, F. R., acting asst.-surgeon, granted twenty-six days' extension of annual leave on account of sickness from Aug. 23, 1911

Medical Economics

This Department Embodies the Subjects of Post-Graduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

THE ECONOMIC VALUE OF SANITATION

Vital statisticians and sanitarians for years have been showing the enormous toll of human life exacted each year through ignorance and lethargy. It has been said again and again that, if this loss was in dollars instead of human lives, the necessary reforms would be quickly brought about. Probably the most unique as well as the most promising feature of the present health movement is that it is being demonstrated that health is wealth, not in the old figurative meaning, but as an actual fact, and that avoidable sickness means waste and financial loss, not only to the individual but to the community. An interesting illustration of the fact is found in an article on "The Tropics and Health," by Dr. D. W. Montgomery of San Francisco, which appeared in a recent number of the *Canadian Practitioner and Review:*

"Formerly everything seemed especially arranged to make Rio a pest-hole It had a landlocked harbor with abundance of moisture, and a hot sun beating down into it. The upper classes of its population were lazy and ignorant, and its lower classes were composed of poor whites and recently emancipated slaves. It was an old Portuguese city with narrow streets, no sanitation worth mentioning, and enough mosquitoes of the right breed to infect with yellow fever a people reduced to the proper degree of receptivity by crowding, by climate, by miscegenation, and by poor food.

STABLE
DISEASED
GARBAGE
AMERICAN MEDICAL ASSOCIATION PRIZE CARTOON SERIES
C Batchelor

SEVERAL REASONS WHY FLIES SHOULD BE UNWELCOME GUESTS.

"But Rio is clean! How was the marvel accomplished? It is due, like many a blessing, to misfortune. The misfortune was yellow fever, and the enlightenment consequent to scientific modern medicine furnished the means of combating it. The change came with the advent of bacteriology and clearer views in regard to the causes of the acute infectious fevers. As a consequence of this clearness of view, more precise international quarantine laws were enacted, and under these the trade of Rio languished, and the peculiar bitterness of this lay in the fact that the ships that were avoiding Rio de Janeiro were passing on to its rapidly growing southern rival, Buenos Aires. Envy and loss of trade finally drove the authorities into action: two broad streets, the Avenida Central and the Cinco de Marzo, were opened up through the old crowded city; a beautiful sea wall and esplanade were built along the city front; the sewerage was so treated as not to foul the waters of the bay; and the markets were put in a sanitary condition. The meat-shops are delightfully neat; and the market on the waterfront is a model of cleanness, lightness and airiness. A good corps of health inspectors make frequent house-to-house visits, and by the free use of creolin, and by prohibiting the accumulation of stagnant water in tubs or elsewhere, the mosquito pest is almost abolished. The water-supply of Rio, drawn from the neighboring hills, is good. As a consequence of these sanitary measures there has been no yellow fever in this port for years, and there is very little typhoid fever.

"The fear of death alone would never have brought about these beneficent results. The high death-rate would have been patiently borne as it had been for ages, and would have been regarded as a visitation of Providence. The blessing was achieved through a love of gain, and a fear of loss, ably supported by the neighborly envy and hatred the Brazilian bears toward the Argentino. By the help of these ignoble passions of avarice, fear, envy and hatred, results were obtained that wisdom, learning, charity and all their cognate virtues could never have accomplished."

CONTRACT PRACTICE

Report of the Committee of the Omaha-Douglas-County Medical Society

The report of the Committee on Contract Practice of the Omaha-Douglas-County (Nebraska) Medical Society, given herewith, is one of the most valuable contributions yet made to the discussion of the question. Particularly commendable is the recognition of the economic necessity underlying the retaining of surgeons by railroads and other industrial corporations, with the distinct proviso, however, that medical services should be limited to the examination and treatment of employees incapacitated directly as a result of employment, or, as is said in the government services, "in line of duty."

"We, the committee appointed by the Omaha-Douglas-County Medical Society to investigate the broad subject of contract practice, desire to state that we have given this subject careful study and discussion. Each member studied some phase of the question, and your committee as a whole has analyzed without prejudice the combined information. We herewith submit for your consideration the following conclusions:

"1. Your committee recognizes the right of industrial corporations employing labor, to engage the services of skilled physicians, surgeons and specialists at reasonable remuneration, to examine employees as to their fitness for services as well as to care for said employees in case of injury or acute sickness when on duty, or to care for those to whom the corporation may be under obligation because of accident. This is but a just and fair protection against damage suits brought by the unscrupulous. However, it would be distinctly understood that such service should not be extended to apply to any member of an employee's family.

"2. We believe that industrial corporations employing physicians, surgeons, and specialists, should limit the service of said physicians, surgeons and specialists strictly to the care of their employees during the time of actual service. We also believe that direct representatives and officials of a corporation should not be included in such medical, surgical and special attendance, or in any way construed as coming under the conditions of this class of service.

"3. We believe that all corporations furnishing medical, surgical and special attendance to their employees should do so entirely at their own expense, or, if the employees are assessed for the expense of such medical, surgical and special attendance, they should be untrammeled in the choice of their physicians, surgeons, and specialists.

"4. We believe that contract practice as applied to lodges, fraternities, benevolent, and benefit-organizations, is detrimental to the best interests of the medical profession in general and especially to the physicians employed; that it is especially unjust to all physicians who are subject to ordinary competition, and that it pauperizes the lay public and demoralizes the medical profession in general, teaching the former to expect medical, surgical and special care for practically nothing, lessens their respect for the skill and dignity of our profession, and permits designing men to traffic in and commercialize the practice of medicine.

"5. We believe that such lodge, fraternal, benevolent or benefit-organization and contract practice, as *ordinarily* in operation, is eminently unfair, because it buys medical services at wholesale from the physician, then compels him to peddle out his services at retail, and deprives him of any voice in limiting the amount of service to be rendered for the wholesale price agreed on.

"6. In conclusion, we earnestly recommend that members of our society decline in the future to accept the position of contract physician to lodges, fraternities, benevolent or benefit-organizations, not industrial in character—therefore without all liability—as well as corporation contracts that are not in harmony with these findings.

"John E. Summers.
"H. M. McClanahan.
"James M. Aiken.
"F. E. Coulter.
"B. W. Christie."

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

[Note.—The pamphlets containing the outline of the postgraduate study course for county societies for the coming year are ready for distribution. Secretaries of county societies can secure supplies by writing to the Secretary, Council on Health and Public Instruction, American Medical Association, 535 Dearborn Ave., Chicago.]

Second Month—Third Weekly Meeting

Gunshot Injuries of Head

Character of wound, wound of entrance, wound of exit, effect on inner and outer tables, effect on meninges, effect on brain substance, hydraulic and hydrodynamic pressure. Differences of effects of leaden and jacketed missiles. Effect of initial velocity and range. Medicolegal interest in pistol-shot wounds.

Symptoms: Areas of brain involved.

Treatment: Disinfection. Indications for trephining. Use of x-ray.

Intracranial Hemorrhages

Extradural Hemorrhage: Middle meningeal artery and branches. Character of wounds, by "contrecoup." Effects of hemorrhage, local and general.

Symptoms: Mental disturbances, "free interval," pulse, respiration, motor disturbances, sensory disturbances, pupils.

Treatment: In compound fracture, indications and technic. In internal hemorrhage, indications for trephining. Krönlein's "sites of election," method of localization.

Subdural Hemorrhage: Pial vessels, branches. Character of injuries. Extent of hematoma, quantity, absorption. Differentiate from supradural—(1) free interval, (2) pulse, (3) motor disturbances, (4) localizing symptoms

Intracranial Hemorrhages in the New-Born and Children[1]

Traumatic Meningitis

Etiology: Injury; micro-organisms present, mode of entrance.

Pathology: Leptomeningitis, character of exudate, extent, cortex. Pachymeningitis, changes in dura, exudate, origin. Meningitis serosa.[2]

Symptoms: Early and late. Cortical or basilar. Chills and fever, headache, pulse, nausea and vomiting, pupils, delirium, stupor, coma.

Society Proceedings

COMING MEETINGS

Kentucky State Medical Association, Paducah, Oct. 24-26.
Medical Society of Virginia, Richmond, Oct. 24-27.
Southern Medical Association, Hattiesburg, Miss., Nov. 14-16.

MEDICAL SOCIETY OF PENNSYLVANIA

Sixty-First Annual Meeting, held at Harrisburg, Sept. 25-28, 1911

The President, Dr. John B. Donaldson, Canonsburg, in the Chair

The officers elected were named in The Journal Oct. 7, 1911, page 1217.

The Care of Advanced Cases of Tuberculosis

Prof. Walter F. Willcox, Ithaca, N. Y.: The effective segregation of an increasing proportion of the advanced cases of pulmonary tuberculosis is attended by a decrease in the death-rate from that disease, no matter what other influences favorable or unfavorable may be present, and, conversely, failure to segregate these cases is attended by a stationary or increasing death-rate. The rate at which the segregation of tuberculous patients increases in any community uniformly agrees with the rate at which pulmonary tuberculosis decreases. It follows, then, that in combating the disease the main effort of public health workers should be directed toward the extension of hospital accommodations for advanced cases and the increased segregation of such cases.

DISCUSSION

Dr. W. C. White, Pittsburgh: There are certain peculiar features of advanced cases of tuberculosis which are often lost sight of and which it is essential to consider before any scheme for their care can be adopted. Advanced consumptives are sick, and provision must be made for their continuous stay in bed with adequate nursing. Our ordinary sanatoriums and institutions for the sick refuse them admission; private practitioners want to get rid of them, and boarding-houses and homes discharge them without compunction. Few of them can ever be put in such shape as to return to their former occupation, and many of them under the proper care live for many years unable to work. These patients are sources of infection if they are the least bit careless, and, submitted to the scrutiny and remarks of acquaintances, they are very apt to become careless. These patients have in most countries the rights of citizenship and can and do refuse daily to accept the opportunity open to them for institutional care for even a few weeks or months, thus making the large institutions far from centers of population of much less value than they otherwise might be. While much evidence can be adduced to show that a marked reduction in mortality in tuberculosis can be obtained without it, the efficient and practical care of patients in advanced tuberculosis is one of the important elements, if not the most important element, in our endeavor to control this disease. The law must eventually be the means by which this infection is controlled. Proper provision should be made for tuberculous patients in asylums, jails, poorhouses, orphanages, homes, etc. A third necessity is the provision of separate institutions for the care of these patients; finally, proper provision must be made for their care in their homes.

Dr. Wilmer R. Batt, Harrisburg: I am unable to accept the conclusions of Professor Willcox because the statistics which he has submitted in regard to the reduction of mortality in England and other European countries refer to the general institutional care of tuberculosis and not to advanced cases alone; owing to the migratory tendencies of tuberculosis sufferers the mortality rates in any single American city are not sufficient evidence on which to base accurate estimates of the decline of the disease from any particular item of prevention; considering the average duration of tuberculosis it is impossible to estimate the value of preventive measures which have not yet reached their full development. To provide principally for advanced cases of tuberculosis and minimize the opportunity for those suffering from the disease in the early stages can be excused only on the assumption that it is the hopeless and dying that are dangerously infective. The bacilli in incipient or moderately advanced cases are as dangerously infective as those in advanced cases and infinitely more widely distributed.

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[1] Scottish Med. and Surg. Journal, June, 1906. Frazier: Trans. American Surgical Assn., 1906. Progressive Medicine, March, 1907 and 1908.

[2] Ballance: Lancet, Dec. 21, 1907.

Dr. T. B. Appel, Lancaster: The conclusions drawn by Professor Willcox seem to me to be most timely and most important. As the terminal stages of tuberculosis seem to present the greatest dangers of contagion, more effectual precautions should be taken in such cases to combat the spread of consumption. We as general practitioners know that patients come back from sanatoriums educated in the proper care of themselves, but they come back to the same insanitary surroundings and in my experience in time become careless, lose ground and in the end succumb to septic phthisis. Therefore, if better means of segregation of these poor, ignorant, hopeless ones can be obtained, their care would be much more effectual.

Blood-Pressure and Pulse-Rate in Pneumonia

Dr. H. A. Hare, Philadelphia: The favorable ratio in croupous pneumonia is one in which the pulse-rate per minute is less than the number of millimeters of mercury as shown by the sphygmomanometer. In other words, if the pulse-rate be 90 and the blood-pressure 120, the patient is doing very well. If the pulse-rate be 100 and the blood-pressure 110, he is not doing as well as before. If the pulse-rate be 110 and the pressure 110, something must be done to bring back the normal difference already referred to, and, if the pulse-rate be 120 and the pressure 110, the patient is in grave danger and will probably die unless very active treatment causes him to rally before this abnormal ratio has lasted for any length of time. The fall of pressure may be considered to be the result of the toxemia which directly affects the vasomotor centers or the walls of the vessels themselves, or it may be due to a direct effect on the heart muscle, whereby this organ is unable to pump strongly enough to maintain pressure. It is of some importance to determine, if possible, whether this fall of pressure is due to one cause or the other, for, if it be vasomotor or vascular, direct cardiac stimulation is not needful, although it is true that most vascular stimulants are also heart stimulants. On the other hand, if the heart be at fault, attention must be directed chiefly to this organ. If the vessels be at fault, the difference between diastolic and systolic pressure will be marked, the heart, if strong, sending out a forcible wave of blood in an endeavor to fill the blood-paths. If the pressure be low from a failing heart, there will be little difference between diastolic and systolic pressure for obvious reasons. There is no treatment of pneumonia but there is treatment of the pneumonia patient, and this will vary in every case.

The Care of the Insane

Dr. T. H. Weisenburg, Philadelphia: Of all the problems which are now before the profession there is none more pertinent than the care of the insane. It seems to the alienist almost nonsense that general hospitals throughout the state should take care of medical and surgical patients and refuse to take care of the insane, thus making it necessary to send them to an asylum or a private sanitarium. The time has come when it is necessary that all general hospitals should have separate wards for the care of the mentally afflicted. A bill will be introduced in the next legislature providing for the placing of all the insane of the state in state institutions with proper provision for the criminal insane, the feebleminded and epileptic. In this way the care of the insane by the various counties will be abolished. There are to be established two laboratories for the study of the causes of insanity.

(To be continued)

INDIANA STATE MEDICAL ASSOCIATION

Annual Meeting, held at Indianapolis, Sept. 28-29, 1911

The President, Dr. F. C. Heath, Indianapolis, in the Chair

The Sociologic Aspects of Syphilis

Dr. C. E. Barnett, Fort Wayne: The sociologic aspect of syphilis is a question of state concern, for syphilis not alone deteriorates the state's own subject and his progeny, but they, on account of their syphilitic degeneration, help to fill the state institutions, thus bringing a monetary factor into play. In my opinion the present publicity education on venereal diseases, for the time being, is a detriment rather than a benefit to humanity. When, however, the education finally permeates the mind sufficiently to show the dangers of inoculation and the necessity of preservation of the body against syphilis, then the good will have been done on account of education. The question of marriage when lues is present is almost entirely in the hands of the attending physician, and he is a coward if he fails to protect the innocent.

Diagnosis of Syphilis

Dr. W. F. Garshwiler, Indianapolis: The diagnosis of syphilis is based, first on certain usually well defined clinical symptoms which appear usually in regular order; second, finding in the blood-serum the organism of syphilis; third, by the therapeutic test, and fourth, by the blood-serum test of Noguchi and Wassermann. The fact that under all conditions, primary, secondary or tertiary lesions, dead or living, the spirochete usually maintains its characteristic shape, makes it easy to distinguish it from other spirilla. The therapeutic test should never be used to diagnose primary syphilis.

The secondary symptoms are usually an acute toxemia followed immediately by polymorphous skin lesions. The later secondary skin lesions are usually a relapse of the earlier secondary lesion of the skin and mucous membrane. In the secondary stage the dark field illuminator and the Wassermann test will prove of the greatest help in diagnosis. The therapeutic test has no place in the diagnosis of secondary syphilis, for the reason that the lesions tend to spontaneous recovery and that mercury and potassium iodid affect other diseases which simulate syphilis.

The diagnosis of tertiary syphilis becomes relatively more difficult by every method, except the therapeutic, the longer the time has elapsed from the secondary stage. The demonstration of spirochetes in the tertiary lesions is more difficult, on account of their lessened number, and failure to find them in lesions apparently specific proves nothing. The Wassermann test is far less reliable in the third than in the secondary stage. The therapeutic test becomes a valuable aid when other methods of diagnosis fail in tertiary lesions, and should be used only for diagnosis, and only in this stage, and not until other methods have failed.

Treatment of Syphilis

Dr. D. C. Ridenour, Peru: The treatment of syphilis falls into two divisions, (a) practical, and (b) theoretical and experimental. Under the first I follow the treatment of those who favor the administration of treatment by mouth and inunction, rather than hypodermically. Syphilis is a septicemia. I would, therefore, advocate a continuous, intermitting, eliminative treatment as the most practical. Another form of treatment which gives good results is the local inunction with mercurial ointment. Sulphur baths in conjunction with mercury are excellent. Salvarsan has proved not to be a *therapia sterilizans magna*, but it is a valuable addition to the means of combating syphilis. The hypodermic mode of treatment of syphilis is painful, in many patients excites apprehension and is bitterly objected to. Furthermore, the need of the precedent administration of cocain or morphin, as so frequently advocated for relief of the pains caused, is in itself very objectionable. It is occasionally dangerous and sometimes rapidly fatal. It is very liable to be followed by certain local complications, such as erythema, cellulitis, painful nodosities, abscess and sloughing. It cannot be carried out by the patient, but requires the attention or intervention of the physician-surgeon. However, if patients demand hypodermic treatment. I would suggest the daily injection, intramuscularly, of 30 minims of liquor potassi arsenitis, with mercury by mouth.

DISCUSSION

DR. F. B. CHARLTON, Indianapolis: There is just one reasonably effective solution in sight. We are already working for a national health organization with a chair in the cabinet, and, perhaps, when that comes about there may be something done with this question. We may get national laws by which we can handle the question of prostitution and indiscriminate relationships in a way that we cannot now. I do not see anything hopeful in dealing with it in any other way than by national legislation. There must be authority to control and authority to inflict penalties. As to diagnosis, I want to emphasize the necessity of getting the history in syphilis. I look on the taking of the proper history as one of the most essential points. Individuals have been pronounced syphilitic who never have had syphilis. This blunder is almost as pernicious as to make a mistake on the other side. As to the intramuscular injection of mercurials, this method is nearly universally accepted. We are giving mercury in its metallic form as calomel or the salicylates, and we are getting good results. Moreover, we never give cocain or morphin to control pain. There is no particular pain at the time, sometimes a little feeling of a bruise twelve hours after. What are the advantages of this method over the old one of giving a man some medicine and sending him home to treat himself? Where they get an injection once a week or ten days, we get results, for they get the medicine. The other way they get the medicine incidentally—when they think of it, and too often they forget it altogether.

As to salvarsan, I doubt whether there has ever been a drug in the history of therapeutics so extensively studied, experimentally and practically, as salvarsan. It has been shown that there are no toxic effects from salvarsan, and that the eye does not suffer. There is only one complication, and that is in atheromatous conditions when the blood-pressure is high and the vessel walls weak. It clears up certain malignant cases that never yielded to the old methods. Give salvarsan and in forty-eight hours the patient can go home to his family without any fear of infecting them.

DR. A. W. BRAYTON, Indianapolis: What shall we do in a case of syphilis? Diagnose it along modern lines, by the clinical symptoms, by the history, the organism and the Wassermann test, and then treat it according to the best of our judgment and knowledge as taught by the ancient, and, especially, the recent, history of the disease. We have come to the parting of the ways in the treatment of syphilis. We have a new addition to our therapeutics that cannot be laughed down—salvarsan. We can control our cases absolutely with mercury, if given rightly. Then why use salvarsan? Because it is safe, it acts quickly, and there is no risk (and this is the greatest value of salvarsan) of the patients infecting other individuals in twenty-four hours after taking treatment. When you come to consider the subject two or three years from now, there will be but one voice—and that will be for the intelligent treatment of syphilis by salvarsan, to protect the patient and the community.

Acute Anterior Poliomyelitis

DR. W. D. HOSKINS, Indianapolis: Within the past five years there have been reported more cases of this disease than in all the previous history of medicine. The disease has long been suspected of being contagious, and a brief summary of its recent history will undoubtedly confirm the suspicion. Bacteriologists have not yet succeeded in demonstrating any constant specific organism. The virus passes unchanged through the finest filters. The pathology of the disease has for some years been known to be a degeneration of the motor cells in the ganglia of the anterior horns of the cord. A few points remain obscure. What is the reason for the decided preference for the anterior horns? Why are certain areas of the cord, notably the cervical and lumbar enlargements, especially vulnerable? Is the degeneration in the anterior horns a primary lesion, or secondary to other parts of the pathologic process? The consensus of opinion now is that the infection is primarily a vascular one. One attack of poliomyelitis usually renders the individual immune. Second attacks have been observed, but are rare. In many mild cases complete recovery occurs. Of the epidemic cases, complete recovery occurs in about 25 per cent. The mortality in epidemics is approximately 12 per cent; in sporadic cases, 6 per cent. We hope there will soon be an immunizing serum. In the meantime, we can do something toward protecting the little ones in our care by acquiring an intelligent knowledge of the disease, making early diagnosis and preventing the spread of the infection.

DISCUSSION

DR. F. B. WYNN, Indianapolis: This subject has been brought to our attention particularly by the agitation regarding it carried on through various public health agencies; and very properly, of course, because our modern knowledge of this disease teaches us that we are dealing with an infectious disease. The problem is to recognize this disease early, and that is hard to do. I do not know until the paralysis has come. I say to these patients, drink water, flush the system, dilute the toxins, keep the bowels very free—do anything to help get rid of the toxins. That is old-fashioned practice, but in these cases I believe it is the best practice. Then isolate the patient and take proper care of the secretions of the nose, which are known to be highly infectious in character.

DR. ALBERT E. STERNE, Indianapolis: We have always had acute poliomyelitis with us. There is nothing new in its sporadic occurrence. Of course, we do not see the acute cases so often, but the subacute cases have always been with us. While I believe this disease will spread by contact, we are not absolutely certain whether we are dealing with a contagious disease, an infectious disease, or a contagious-infectious disease. I subscribe most heartily to what has been said in regard to the necessity of taking cases of this kind in hand early and watching them. But what I would like to most see is the profession awakened to the real danger of procrastination in the treatment of these conditions. We should treat this like any other deep-seated inflammation. We should prevent deformities, and we can—in cases that we see early.

DR. G. W. MCCASKEY, Fort Wayne: We do not even know enough about this disease to give it a name. It is not purely an infantile disease. It may occur in substantially the same form in adults. So, if we are going to be punctilious about the name, we must not call it infantile paralysis.

Tuberculin and Autogenous Vaccines in Pulmonary Tuberculosis

MR. R. T. PETTIT, Ottawa, Ill.: Of 2,841 patients treated with tuberculin there were 1,932 patients cured or benefited from one to seven years after discharge, or 68 per cent. In the 19,249 not treated with tuberculin, 9,614 were cured or benefited, or 50 per cent. This shows an advantage of 18 per cent. in the tuberculin-treated group, a very substantial advantage. At the Ottawa Tent Colony, the results show that the percentage of incipient cases with cure or benefit in the tuberculin-treated group is about the same as in the untreated. However, the percentage of deaths in the untreated is over twice that in the tuberculin-treated group. In the moderately advanced stage, the tuberculin treated patients show a marked advantage, and in the far advanced stage, both treated and untreated, little in the way of treatment can be done.

With regard to autogenous vaccines, while it is yet too early to come to any conclusion regarding the ultimate results, I believe that in these vaccines we have another valuable adjunct to our present methods of treatment, and I believe we are justified in stating that in tuberculin and autogenous vaccines we have two valuable assets in the treatment of tuberculosis. However, we should not neglect the more valuable hygienic and dietetic principles of increasing the general resistance for these other methods of increasing the specific resistance, but, in order to produce the best results, they should be used together.

Local Use of Tuberculin in the Treatment of Open or Surface Forms of Tuberculosis

Dr. Thomas J. Beasley, Danville: The first point in these cases is to make a positive diagnosis, which is somewhat difficult. The tubercle bacilli may be found by the microscopic examination of the exudate. In a few instances I have applied tuberculin directly to the parts involved, and if a marked local reaction occurred, it seemed fair to conclude that it was a tuberculous infection. The therapeutic dose of tuberculin, when introduced hypodermically, causes tuberculous areas to become congested for a period of several hours. By the local application of tuberculin to open or surface forms of tuberculosis we can produce a similar reaction at the seat of infection, and by careful observation and repeated applications we can maintain in the tissues involved a constant reaction by gradually increasing the strength of the solutions employed. In applying tuberculin to such large areas as are frequently presented in some of these cases, great care must be exercised that the dose be not large enough to permit of enough absorption into the system to cause a general reaction. If the dose be too large in the beginning, the tissues may become insensitive and some difficulty may be experienced in producing subsequent reaction. It, therefore, seems advisable that the initial dose be small, and it is always dependent on the extent of the area to be treated. The tuberculin is applied by using a hypodermic syringe to spray the solution over the entire surface of the diseased parts. Where deep sinous tracts are to be treated, a flexible cannula is attached to a hypodermic syringe. When the cannula has traversed to the depth of the sinus, it should be withdrawn carefully and as the withdrawal is being made, the syringe should be emptied slowly of its contents. Enough of the solution should be used to fill all openings.

Twenty-four to forty-eight hours after the first application, a marked change is observed in the parts treated, the discharge being greatly lessened. The wound is not disturbed, except for the renewal of external dressings. Forty-eight hours later the severity of the reaction begins to subside. The parts are again irrigated with a saline solution, and an increased strength of tuberculin is applied. The treatment is repeated as often as seems necessary until a cure is produced. The value of this treatment in osseous involvements is yet to be determined, but it is reasonable to expect good results in this class of cases.

MICHIGAN STATE MEDICAL SOCIETY

Forty-Sixth Annual Meeting, held at Detroit, Sept. 27-28, 1911

(Continued from page 1307)

Nitrous-Oxid-Oxygen Anesthesia

Dr. Richard R. Smith, Grand Rapids: The advantages of nitrous-oxid anesthesia are: the decreased toxic effects, shown by clearer mentality following operation, lessened vomiting, quicker recovery from operation, lack of toxemia and lessened shock. These advantages are best seen in prolonged operations, to which nitrous-oxid-oxygen is especially adapted. Patients that one would fear to operate on under ether can sometimes be operated on safely under this administration. It encourages in the surgeon gentleness of touch and thoroughness, since he is less apt to be hurried by any danger attending a long anesthesia. Do not use it in operations on very robust patients, alcoholics, patients of exceedingly nervous temperament, and in operations on the head and throat.

Physostigmin Combined with Morphin in the Treatment of Pain Following Abdominal Operations

Dr. B. R. Schenck, Detroit: At present in the postoperative treatment of patients, there is a general unanimity of opinion, except in regard to the use of morphin. Some surgeons never use the drug while others give it almost, if not entirely, *ad libitum*. The majority use it sparingly, relying on codein or heroin. Morphin would be used universally (except in cases where there is danger of masking important symptoms) were it not for its paralytic effect on the intestine and its causing vomiting. Combining physostigmin with it seems to antagonize the effect on the intestine. I use tablets containing gr. 1/6 of morphin and gr. 1/75 of physostigmin. As many hypodermics of this are given as are necessary, the bowels moving well with an enema on the third or fourth day. The discomfort of the dreaded "third day" is entirely removed. The combination tablet relieves pain as well as plain morphin and prevents gas accumulation and meteorism.

DISCUSSION

Dr. W. P. Manton, Detroit: I have used more or less extensively both morphin and physostigmin—but not the combination. It seems to me that in this day and generation the use of morphin should be done away with very largely. For probably more than twenty years I was in the habit of giving laxatives and cathartics the night before the abdominal sections, and during all that time I had frequent cases of abdominal distention, sometimes extreme. For the last six or eight years I have given up entirely the use of laxatives before abdominal operations, and as a result I have rarely had a case of distention. In those cases I have employed physostigmin with, in a majority of instances, good results, but I have never given it in large doses. Instead of morphin I have used codein phosphate almost *ad libitum*, and I find a small amount of pain and irritation resulting from the inflammation taking place from the incision in healing, and codein phosphate has controlled all the symptoms, so that nowadays I very rarely give a dose of morphin. I have no doubt that the combination of morphin and physostigmin is a good one, if you are bound to use morphin in these abdominal cases, but I think that morphin can, in a majority of these abdominal cases, be omitted.

Dr. E. M. Houghton, Detroit: It is readily recognized that morphin is, perhaps, the drug par excellence for controlling pain, but it has always been, I believe, open to the question whether to give it internally or subcutaneously, in which case it is excreted very promptly. I think that some have shown that morphin given subcutaneously is excreted back into the bowel inside of two or three minutes. Whichever way the drug is given, you get an action on the bowel and you get more or less of a paralysis and a lessened peristalsis. We know that morphin controls the pain largely because of the central action of the drug, and it seems to me that Dr. Schenck's idea that it would be wise to use physostigmin in combination with morphin rests on a good basis. In physostigmin you have something that stimulates the muscle in the wall of the intestine to contract. I believe a good many experiments have been made to show just whether it acts on the muscle fibers or on the nervous mechanism in the muscles, but so far no one has been able to pin the matter down exactly.

Dr. John N. Bell, Detroit: I would like to ask Dr. Schenck to tell us whether or not his use of physostigmin and morphin has relieved the tendency to nausea which is also so distressing after using morphin. I have used codein phosphate for some years, and it has been my experience that not infrequently, although I have given 2½-grain doses, I have still been forced to resort to morphin to relieve pain.

Dr. Richard R. Smith, Grand Rapids: The treatment of postoperative vomiting is on the table—in the giving of just as little anesthetic as possible. So it is with this matter, I believe, of postoperative pain—postoperative ileus—postoperative distention. The treatment of these begins on the table, and means a brief and gentle manipulation, and when the surgeons work with this in view real progress will be made.

Dr. B. R. Schenck, Detroit: I agree that the cause of postoperative distention and postoperative discomfort is not how you prepare the patient and treat him afterward, but how you treat him while he is on the table; but even though you treat him with the greatest respect, he is going to have some discomfort. Codein is not as good an analgesic as morphin. Regarding the nausea, although I have given three or four sixths of morphin the first twenty-four hours, I certainly think the nausea has not been any greater or perhaps less, but there are so many factors that enter here that, perhaps, we are a little prejudiced and allow our judgment to lead us to form opinions which are not correct.

The Need of a Better-Developed "Obstetric Conscience"

Dr. Charles E. Boys, Kalamazoo: By the term "obstetric conscience" is meant that development of mind which has to do with generalship and exactness of technic in obstetrics. An obstetric operation is just as important, and should receive just as much attention in regard to sterile dressings, aseptic technic and freedom from hurry or need of attendance on other work as a surgical one. A good "obstetric conscience" would undoubtedly prevent many lacerations, but is of most importance in the prevention of sepsis. We make elaborate preparations for removing an infected appendix which may have ruptured, and where the surgeon has no responsibility for the present condition of the patient but we take a clean healthy woman and allow her to become infected following a forceps delivery. The same surgical care should apply in obstetric work. The Kelley pad is a dangerous thing because so difficult to sterilize. I prefer newspapers, direct from the mills, as they are more nearly sterile.

DISCUSSION

Dr. W. P. Manton, Detroit: For a long time I have insisted on absolute cleanliness, but we know that absolute cleanliness in the ordinary house is not to be obtained. I think the time is coming when every woman who can get to a good lying-in hospital, or a good hospital where they take obstetric cases, will go to that institution. As to the Kelly pad, the doctor said he used newspapers, but he did not say that he sterilized those newspapers. I take it for granted that he did; but, of course, we all know that there can be nothing that is more likely to be germ-laden than the ordinary newspaper.

Dr. H. Wellington Yates, Detroit: As far as the Kelly pad is concerned, I disagree. I think it can be sterilized. The Kelly pad used in obstetric work should not be used in general practice at all. Too much attention is paid to mortality and figures of that kind. As a matter of fact, every once in a while you see some fellow who has had a series of some four thousand patients without one case of infection. This nonsense means that he has not had one die, and he, perhaps, may be honest in that and there can be only a few who can be honest in that. But the matter of morbidity is another question, and as a matter of fact if those cases were taken care of properly the field of gynecology would be wiped out. The question of morbidity rather than mortality is the thing that interests us most. We may only lose one once in a while, but the morbidity!

Dr. W. C. Stevens, Detroit: I like the paper pad. I have used it many years. I have the woman take those paper pads and iron thoroughly on an ironing board with a red iron, as red as she could use without scorching it. Then I have her pile those up and quilt them through and through, and it does not take many pages of an ordinary Sunday paper to turn water; then I have her roll them and put them in a chest somewhere in an unused room or attic, and fill that chest, putting in plenty of formaldehyd.

Dr. Charles E. Boys, Kalamazoo: As to the sterile condition of the paper: In the paper mill the material is, first of all, immersed for 24 hours in a strong solution of chlorid of lime, to take the color out of the rags and the paper that the paper is made of. From there it goes into a large vat of chlorid of lime for twenty-four hours more; from there it is poured on a screen and rolled through fourteen or sixteen rollers of superheated steam, and that sterilizes it. From there it rolls on the printing press, and the ink is sterile. They do not fold the papers by hand any more, and the paper is not touched at all until it gets into your door yard, and then it is unfolded. Suppose you do use a dirty newspaper or a dirty kitchen table. That is of the smallest importance, because you don't put a woman on the kitchen table, but it is always covered by something to protect her from pressure injury. You cover this up, and even if you use papers, or the Kelly pad, of course this would be covered with sterile towels which are carried along.

(To be continued)

AMERICAN ROENTGEN RAY SOCIETY

Twelfth Annual Meeting, held in Richmond, Va., Sept. 20-23, 1911

(Concluded from page 1309)

Compensating Displacements of the Thoracic Viscera in Pulmonary Tuberculosis

Dr. Charles Lester Leonard, Philadelphia: Compensation for the loss of expansion in the lungs takes place through an increase in the capacity of their normal area, or through the interposition between the visceral and parietal pleura of an area filled with air, or fluid, or both. These changes must take place in proportion to the volume of the lungs involved in a pathologic process. They are in a measure appreciable by the ordinary methods of physical diagnosis. The changes which can be noted by inspection and mensuration are, however, less marked in ratio with the extent of the disease than those within the thorax, which produce displacements or alterations in the position of the viscera. An internist connected with one of the largest institutions for the special study of tuberculosis did not believe that displacements of the viscera could occur so frequently in the earlier stages of the disease. He said that in some hundreds of post-mortems conducted at the institute they had failed to find such displacements.

These pathologic variations in the position of the thoracic viscera can be shown clearly only by the rapid roentgenograms that eliminate the heart's motion. Their exact position and interthoracic relations can only be fully appreciated by the rapid stereo-roentgenogram. In the entire series of one hundred cases, twenty-six displacements of the heart and aorta were found, with three cases of pneumothorax. In seventeen cases the heart was displaced to the right; in four to the left; and in five a rotation took place, with an upward displacement of the heart and aorta, so that the heart assumed an antero-posterior position. In two cases a superficial pneumothorax was found overlying the lower left lung, and in one case an acute hydro-pneumo-thorax of tuberculous origin was shown.

A review of the cases in the entire series shows that those cases in which no displacement of the viscera was present were early lesions, in which no fibroid change had taken place, or that the lesions were not extensive and symmetrical, or that the heart was bound down by adhesions between the pericardium and the diaphragm. The unequal elevation of the two halves of the diaphragm, Williams' sign, was present in less than one-half of all the cases, and was not present where displacements of the interthoracic viscera had occurred.

The pathologic displacements of the thoracic viscera in pulmonary tuberculosis are the result of compensation for the destruction of expansive normal lung tissue by the disease. The displacing force is the result of one or two changes, or the combination of both, or, as in the case of acute pneumothorax, from the rupture of the lung. The consolidated lung area may undergo fibroid change and contraction, the contracting tissues drawing the heart and aorta with them, while the emphysematous lung on the opposite side assists in their displacement.

In addition to the displacements which cause compression of the diseased portion of the lung, there is present in many cases an ossification of the costal cartilages and an approximation of the ribs over the affected area. The compensating displacements may be divided into four groups. Displacements of the lung by superficial pneumothoraces; displacements of the heart upward and into an antero-posterior position; displacements of the heart and aorta to the left; and displacements of the heart or heart and aorta to the right.

The Control of Fracture Work by the Roentgen Ray

Dr. Roland Hammond, Providence, R. I.: The time is near at hand when no fracture or joint injury will be considered to have been treated properly if a Roentgen examination has not been made. It is a well-recognized fact that a Roentgen plate should be taken after an attempt at reduction has been made, to see if the desired result has been obtained. Of almost equal importance is a plate beforehand, to know accurately with what condition we have to deal—a fact not appreciated by the profession at large. With the knowledge thus obtained, the reduction can often be easily made, and with but slight trauma to the parts. Many cases now subjected to open operation and plating could be treated by extension and counter-extension after the method of Bardenheuer and Graessner, with as good anatomical and functional results, and at less risk and greater comfort to the patient. In many cases which seem irreducible, plates made while the patient is under ether and after successive attempts at reduction have been made will often give the clue to the situation, enabling the reduction to be made without resorting to an open operation. Some fractures are irreducible by the above methods and an open operation is necessary. In these cases an absorbable suture material should be used, if possible, reserving wire and plates for cases in which the fragments can be held by no other means.

DISCUSSION

Dr. Arthur Holding, Albany, N. Y.: It is our duty to impress on the surgeon that this fracture work must be controlled by the Roentgen ray. Only by this means can we determine absolutely whether the approximation of the fragments is as it should be. We must not hesitate to advise the surgeon to sacrifice his pride and reset a bone. In fact, the Roentgenologist may be in the rather trying position of having to protect the surgeon and the patient. We must be careful, however, when we use the Roentgen ray while the patient is still under the ether anesthesia. I have seen several instances in which the spark has caused serious damage, even when the tube was not anywhere near the ether can or mask. The spark jumped to the iron bedstead and in that way got to the ether can, and in one case there was produced a conflagration in which the patient was injured seriously. The ether bottle should be out of the room and the can away from the patient's face before the tube is excited.

Dr. Lewis G. Cole, New York: I use bromid paper instead of a plate. One can show as much on the paper as on the plate in from two to three minutes from the time the exposure is made. The prints may be made as rapidly as can be done. This applies not only to fractures, but to foreign bodies.

Dr. George C. Johnston, Pittsburgh: The *only man* competent to treat fractures correctly is he who controls his work with the Roentgen ray. It is also necessary to examine these fracture plates stereoscopically, especially in the case of fractures of the shoulder. The orthopedist is the man to treat fractures.

Collaboration Essential in the Diagnosis of Surgical Conditions of the Kidney and Ureter

Dr. John Hunter Selby, Rochester, Minn.: This cooperative examination opens up additional possibilities, especially in that large group of abdominal cases seen in daily practice which exhibit an indefinite line of symptoms referable perhaps to the appendix, gall-bladder, stomach, duodenum, spine or genito-urinary tract, but with a strong possibility of involvement of the genito-urinary tract. Such cases require careful study, and some of them tax every means at our command before we can approach an accurate diagnosis.

In St. Mary's Hospital (Mayo Clinic), all such cases are referred to the Roentgen laboratories for examination. The routine examination in this clinic may be described as follows: A full history is taken, and a physical examination made. A twenty-four hour specimen of urine is reported on, and perhaps a gastric analysis is made—all of which may throw considerable light on the case and yet not clinch the diagnosis. The Roentgenologist is then called on to examine the case and after the proper preparation of the intestinal tract a set of stereoscopic plates of the upper abdomen, and a second set of the lower abdomen and pelvis, are made by the rapid method; that is, while the breath is held. If this examination fails to reveal any abnormalities, we have not yet ruled out the genito-urinary tract. If, then, in the light of the clinical findings and negative *x*-ray examination, the diagnosis is still under suspicion, the patient goes through a second preparation of the intestinal tract and is referred to the cystoscopist the following day. In the meantime, the original plates are studied and a consultation is held between the physician in charge, the Roentgenologist, and the cystoscopist. This, at times, furnishes the cystoscopist with much-needed information, and establishes a new working basis for the Roentgenologist, should subsequent events indicate a second *x*-ray examination. The cystoscopist now makes his thorough routine examination and he alone may clear up the diagnosis by one of his ingenious methods, and thus eliminate the necessity for the "combined examination." He may gather evidence to confirm the original *x*-ray findings or to disprove them. Again, he may find evidence of trouble that had not so far been suspected. Therefore, the indications for the combined examination depend on the original *x*-ray findings plus the findings by the cystoscopic examination.

Roentgenographic Diagnosis of Ureteral Kinks Causing Intermittent Hydronephrosis

Dr. G. M. Stover, Denver: Hydronephrosis has heretofore been recognized only in rather an advanced stage, when the dilatation of the renal pelvis is considerable. We have found, and have demonstrated by catheter tests, roentgenograms and surgical operation that there is easily recognizable a much earlier stage of this condition, to be discovered before dilatation of the renal pelvis has taken place. A certain number of patients complain of pain in one or both kidneys; a pain somewhat like that of the classical hydronephrosis, but not relieved by the sudden passage of a quantity of urine and a disappearance of the tumor and without the microscopic urinary findings of fully developed hydronephrosis; a pain suggestive but not typical of renal calculus colic, and in which roentgenographic examination for stone is negative. The symptom-complex in this class of cases has usually been rather vague in its diagnostic indications, and there have undoubtedly been many instances in which a faulty diagnosis has led to operation for conditions which were not present, the trouble being laid to an appendix, a tube, an ovary, or a gall-bladder.

In the class of cases under consideration it was found by Dr. Fowler that the injection of a comparatively small amount of solution (averaging only 14 c.c.) into the pelvis of the kidney produced a pain exactly similar to the pain from which the patient suffered; an injection of the unaffected kidney produced a pain which the patient had never felt there before, but identical with that which had been felt on the other side.

DISCUSSION ON PAPERS BY DRS. STOVER AND SELBY

Dr. Percy Brown, Boston: I had a case which, clinically, was diagnosed as a nephroptosis, but, the Dietl's crisis was out of proportion to the ptosis. I made a roentgenogram and found a kink in the ureter. A ptosis was present, but not startling.

Dr. Eugene W. Caldwell, New York City: We must encourage this cooperation between the surgeon and the Roentgenologist. We cannot hope to get the best results until we get team work. I would advise Dr. Selby to do more stereoscopic work.

Dr. Charles L. Leonard, Philadelphia: It is important to look at these plates stereoscopically. I recently located five stones in the lower ureter. The surgeon would not have found the fifth stone if I had not examined the plate stereoscopically.

Pulmonary Metastases from Papillomatous Cyst of Ovary

Dr. Hollis E. Potter, Chicago: Eight years ago a woman was operated on for papillomatous cyst of the right ovary. Regional recurrence necessitated a second and a third operation, six and five years ago, respectively. One year ago a small mass was removed from the right groin. At present there are symptoms and signs pointing to a pulmonary involvement. The roentgenogram cleared up a condition which could not be diagnosticated in any other way. Over the central portion of the left lung is a mass obscuring the heart. It apparently occupies one-half of the left side of the thorax. In the right lung is a mass the size of an orange. There is no pulsation. A diagnosis of cyst was made, but the case was considered inoperable.

Relation of Roentgen Laboratory to the Medical School

Dr. Eugene W. Caldwell, New York City: There is at present a lack of cooperation between the Roentgen laboratory and the medical college. Five or six schools are beyond criticism in this respect. Most schools have laboratories which are useless and dangerous. In many hospitals a photographer or druggist runs the *x*-ray machine. Nearly all the development in roentgenology has been made by private individuals at their own expense. The results of roentgen examination should be checked up by the roentgenologist in cooperation with the clinician and the pathologist. The hospital and the medical school should make the specialty attractive to medical men who possess the necessary qualifications to do efficient work.

The Use of the Fluoroscope as a Guide for the Bronchoscope and Esophagoscope in the Removal of Foreign Bodies

DR. C. F. BOWEN, Columbus, Ohio: The successful outcome of a foreign body case depends, first, on the diagnosis, and, second, on the method of procedure. No attempt should be made to either use the bronchoscope or the esophagoscope without having a roentgenograph close at hand, and since the Roentgen ray plays such an important part in the diagnosis and treatment of this class of cases, I believe that this work should be done by the roentgenologist himself, who has a knowledge of surgery, rather than by a surgeon with a roentgenologist as an assistant.

The Abdominal Viscera in Auto-Intoxication and Auto-Infection

DR. JOEL E. GOLDTHWAIT, Boston: In the chest and abdomen are the important viscera of the body, except the brain, and the proper relation of these organs, one to the other, determines the health of the individual. The Roentgen ray is of the greatest assistance in determining the position of these organs as well as the disturbances that may result from a malposition of one or more organs. A displaced organ may not suffer of itself, but it may push some other organ out of place and cause that organ to suffer. In the quadruped the abdominal organs hang freely from the backbone, and there is no interference of one with the other. In the biped this relation is changed. One individual in five is born with the organs of a quadruped, although that does not necessarily do any harm in itself, and that is one of the points I want to emphasize.

For instance, these patients have sacro-iliac strain because they are standing out of poise; but that in itself is a cause of visceral strain. If the viscera are not hung right, it leads to a drooped posture. In one such case I saw the stomach was down in the pelvis. Then, the stomach cannot unload itself unless the patient assumes a certain posture. The transverse colon very frequently is dropped away down. There may be a loose liver or loose kidneys. In all these cases there is an absence of retroperitoneal fat. It either never was present or it was absorbed. There is no shelf for the kidney. Sewing the stomach or any other one loose organ into place does not give these patients any relief, except for a short time only. All the loose organs must be replaced and that cannot be done by suturing.

There are certain earmarks which go with these conditions, so that this class of patients is easily recognized at sight. Ptosis of the hepatic flexure of the colon is very distressing. The progress of the intestinal contents in these cases is interfered with seriously, and the result is auto-intoxication. In the work we have been carrying on almost every combination has been found—a firmly attached ascending colon, with a free descending colon, and vice versa, or any part of the colon may be free or attached. The fluid part of the intestinal content is absorbed, and the waste is worked together into a bolus which refuses to pass onward. A patient may have a regular bowel movement and yet in the pockets and pouches formed in the walls of the colon there may be fecal matter so firmly caked that a blunt dissector is necessary to loosen it.

The Roentgen ray is of the greatest value in diagnosticating these conditions; in fact, the diagnosis cannot be made without it. You cannot relieve these patients until you get the viscera to work right. With proper treatment you can replace these organs and the Roentgen ray will aid in checking up the results of the treatment. These patients must be nourished until you can see the retroperitoneal fat. Exercises must be prescribed. The organs cannot be replaced when the chest is narrow or the body is stooped. You must make it possible to have the ribs flare so that the organs can stay in place. The posture is the result of the ptosis. When the ribs slant inward and downward, the liver and stomach are pushed out of place, which in turn interferes with the position of the colon and other viscera. That is an acquired condition. These patients must be fed properly, live properly, exercise, and observe certain rules of posture.

DISCUSSION

DR. PERCY BROWN, Boston: This opens up an interesting field of work. Hertz, of England, wrote an admirable book on constipation. He calls the conditions in the colon described by Dr. Goldthwait a hyperperistalsis, where apparently the succus entericus is formed in increased amount; everything is ready for the waste, but none comes. The so-called "greedy gut," of Hertz is an excessive contraction of the circular muscle fibers of the intestine. When the food finally comes, it is dry and the constriction of these circular fibers squeezes the food and it becomes sapless, hard and scybalous. Dr. Goldthwait's investigations are of the greatest value in directing attention to the probable cause of these conditions and their treatment.

DR. GEORGE E. PFAHLER, Philadelphia: Jordan recently called attention to a kink in the duodenum at its junction with the jejunum which may give rise to a spasmodic condition of the bowel leading to pain, ulcers, and sometimes to adhesions. This condition is easily overlooked, therefore we must make a series of examinations and do considerable fluoroscopic work. I have seen adhesious between the descending and transverse colons and sigmoid cause pain. Sometimes these patients are operated on for appendicitis, and then they fail to get relief from their symptoms. It is a problem just what to do in these cases.

DR. CHARLES L. LEONARD, Philadelphia: In one of these obscure cases I found adhesions and a stricture of the ileum which had caused the patient much pain, and which one surgeon had diagnosed as appendicitis.

DR. F. H. BALTJER, Baltimore: In two cases which I saw the abdominal viscera were in the pelvis, although the splenic flexure was held firmly in its normal position.

DR. C. E. COON, Syracuse, N. Y.: If one can show that there is a retention of the intestinal contents due to malposition of the abdominal viscera, many of these chronic sufferers will be able to get relief.

DR. ROLAND HAMMOND, Providence, R. I.: I have observed many times that while we may not change the position of the viscera by supportive and stimulative treatment, we often relieve the patient of symptoms by simply taking off the strain—the sag. By restoring the normal physiology of an organ by supportive apparatus and stimulating exercises, we are doing all that can be done and practically are effecting a cure.

DR. J. E. GOLDTHWAIT, Boston: In studying these cases we must use our good sense and not see only the colon or stomach, but the human being, with a lot of organs whose balance must be worked out. I believe that we can help these patients. These are human problems, capable of solution by human intelligence, otherwise the scheme of the universe is wrong—and it is not wrong. We cannot give these patients normal ligaments, but we can give them normal function. If we operate to replace an organ, the patient will feel better for a while, and then get much worse again, as food is taken. If there is a special condition for which suture is desirable, all right, but it must be followed up by other treatment. The same is true of the operations done for drainage of the bowel. The short circuiting of the bowel which Lane and others are doing is faulty, in that they see only the colon, and not the other abdominal viscera. It is not only the colon which is causing the mischief. You cannot do very much for the acquired cases. As for the congenital cases, if you will make the patients suffering from acquired conditions as nearly normal as possible, you will gradually lessen the number of congenital cases. It is simply a question of race improvement. If you can get these organs to work right, the patient will get well. Feed your patients judiciously and well; exercise them; train them; teach them how to stand correctly; improve their posture, and you will get good results.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARKANSAS: Regular, Little Rock, November 14. Sec., Dr. F. T. Murphy, Brinkley; Homeopathic, Little Rock, November 14. Sec., Dr. P. C. Williams, Texarkana.

CONNECTICUT: Regular, City Hall, New Haven, November 14. Sec., Dr. Charles A. Tuttle, 196 York Street; Homeopathic, Grace Hospital, New Haven, November 14. Sec., Dr. Edwin C. M. Hall, New Haven; Eclectic, Hotel Garde, New Haven, November 14. Sec., Dr. Thomas S. Hodge, 19 Main Street, Torrington.

ILLINOIS: Coliseum Annex, Chicago, October 26-28. Sec., Dr. J. A. Egan, Springfield.

FLORIDA: Regular, Jacksonville, November 7-8. Sec., Dr. J. D. Fernandez.

LOUISIANA: Homeopathic, New Orleans, November 13. Sec., Dr. J. T. Crebbin, 1207 Maison Blanche Building.

MAINE: City Council Rooms, Portland, November 14-15. Sec., Dr. F. W. Searle, 776 Congress Street.

NEVADA: Carson City, November 6. Sec., Dr. S. L. Lee.

TEXAS: Forth Worth, November 28. Sec., Dr. J. D. Mitchell.

WEST VIRGINIA: Hotel Waldo, Clarksburg, November 13-15. Sec., Dr. H. A. Barbee, Point Pleasant.

Texas June Report

Dr. J. D. Mitchell, secretary of the Texas State Board of Medical Examiners, reports the written examination held at Austin, June 27-29, 1911. The number of subjects examined in was 12; total number of questions asked, 120; percentage required to pass, 75. The total number of candidates examined was 148, of whom 133 passed, including 4 osteopaths, and 15 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Arkansas	(1911)	75
Howard University, Washington, D. C.	(1909)	81.2
Atlanta Medical College	(1895)	75.7
Georgia College of Eclectic Medicine and Surgery	(1911)	81.5
Hering Medical College	(1910)	78.8
Rush Medical College	(1897)	81.5
Louisville Medical College (1894) 81.5;	(1905)	87.5
University of Louisville (1911) 81.2, 81.9, 83.7.		
Tulane University of Louisiana (1908) 83.1; (1911) 84.2, 85.5, 86.9, 89.4.		
Johns Hopkins University	(1911)	93.5
St. Louis College of Physicians and Surgeons	(1911)	78.2
Barnes Medical College	(1905)	75
Dartmouth Medical School	(1901)	84.9
Columbia University, College of Physicians and Surgeons (1884) 87; (1905) 89.3.		
Bellevue Hospital Medical College	(1865)	75
Meharry Medical College	(1911)	75, 85.6
College of Physicians and Surgeons, Memphis	(1911)	84.6
University of Nashville	(1910)	80.4
Memphis Hospital Medical College (1900) 81.3; (1908) 78.3; (1910) 75, 77; (1911) 78.7, 80, 83.5, 87, 88.9.		
University of Tennessee (1911) 79.2, 81.2, 87.7.		
Vanderbilt University (1892) 75;	(1909)	86.3
University of Texas (1910) 82, 87.3; (1911) 80.5, 82.7, 83.5, 83.6, 83.6, 83.7, 83.8, 83.8, 84, 84.4, 84.5, 84.6, 84.6, 84.7, 84.8, 85, 85.3, 85.3, 85.4, 85.6, 85.8, 85.9, 86.2, 86.3, 86.4, 86.5, 86.8, 86.8, 86.8, 86.9, 86.9, 86.9, 87, 87.1, 87.1, 87.4, 87.5, 87.9, 88.1, 88.5, 88.5, 89, 90.3, 90.7.		
Baylor University (1911) 80.8, 81.1, 81.4, 81.5, 81.9, 82, 83.5, 84.2, 85, 85.2.		
Fort Worth University (1911) 77, 78, 78.3, 79.5, 80.9, 81.3, 81.5, 81.9, 82.8, 84.3, 84.4, 84.9, 85.6, 85.7, 86, 86.1, 88, 88, 90.		
Southwestern University Medical College (1911) 75.8, 80.8, 81.2, 81.4, 84, 84.3, 84.5, 85.2, 86, 86.5, 87.2, 87.7, 89.2.		

FAILED

College	Year Grad.	Per Cent.
Southern Medical College, Atlanta	(1887)	51
Bennett Medical College	(1910)	62
University of Tennessee	(1911)	71.1
Meharry Medical College (1909) 53.8, 69.2, 72.6; (1911) 50.5, 65.1, 69.3, 70, 70.4, 71.4.		
Chattanooga Medical College	(1897)	53.3
Vanderbilt University	(1911)*	
Fort Worth University	(1910)	63

* Expelled for cheating.

North Carolina June Report

Dr. B. K. Hays, secretary of the North Carolina State Board of Medical Examiners, reports the written examination held at Charlotte, June 14, 1911. The number of subjects examined in was 14; percentage required to pass 80, and not less than 35 in any one branch. The total number of candidates examined was 123, of whom 92 passed and 31 failed. Ten candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Howard University, Washington	(1910)	87.8
George Washington University	(1910)	88.1
Atlanta College of Physicians and Surgeons	(1911)	86.4
Atlanta School of Medicine	(1911)	81.1
Kentucky University	(1904)*	
University of Louisville	(1901)*	
Tulane University of Louisiana (1911)*; (1911) 81.1, 88, 91.6		
University of Maryland (1879)*; (1909) 80; (1910) 83.1, 81.9; (1911) 80, 82.8, 83.3, 84.8, 87.6, 88.6, 93.4.		
Johns Hopkins University	(1908)	89.4
Maryland Medical College	(1911)	80
University and Bellevue Hospital Medical College (1907)*; (1908)*		
Columbia University, Coll. of Phys. and Surgs.	(1910)	80.6
North Carolina Medical College (1910) 80; (1911) 80, 80, 80, 80, 80, 80, 80.1, 81.4, 82, 82, 82.6, 83.3, 83.3, 83.7, 85.3, 85.3, 87.7, 88.6, 88.7, 91.6, 93.8.		
Leonard Medical School (1911) 80, 80, 81.3, 82.6		
University of Pennsylvania (1911) 86, 87, 90, 90.3, 92, 92.3, 94, 94.3, 95.3.		
Jefferson Medical College (1904)*; (1911) 81, 84.6, 87.4		
Medical Coll. of the State of S. Car. (1910) 85;	(1911)	85.4
University of Tennessee	(1911)	80, 80.7
Vanderbilt University	(1901)*	
University of the South	(1903)*	
University of Nashville	(1911)	87.7
University College of Medicine, Richmond (1903)*; (1910) 80; (1911) 80, 80, 81.1, 82.5, 84, 85.1, 85.6, 86.8, 88, 88.6, 89.8, 90, 90.8, 90.8.		
Medical College of Virginia (1908) 82.8; (1911) 80, 85.8, 86		

FAILED

College	Year Grad.	Total No. Examined.
Atlanta College of Physicians and Surgeons	(1911)	1
Atlanta School of Medicine	(1910)	1
Chicago College of Medicine and Surgery	(1910)	1
University of Louisville	(1908)†	1
College of Physicians and Surgeons, Baltimore	(1910)	1
College of Physicians and Surgeons, Boston	(1909)	1
University of Maryland (1904); (1907); (1910);	(1911)‡	4
North Carolina Medical College	(1911)	1
Leonard Medical School (2, 1910)	(6, 1911)	8
Chattanooga Medical College	(1908)	1
Tennessee Med. Coll. (1904); (1908); (1909);	(2, 1911)†	5
University of West Tennessee	(1910)	1
Knoxville Medical College	(1903)	1
University College of Medicine, Richmond	(1911)	2
Medical College of Virginia	(1910)	2

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Medical College of Georgia	(1907)	Georgia
Atlanta College of Physicians and Surgeons	(1906)	Georgia
Tulane University of Louisiana	(1908)	Virginia
College of Physicians and Surgeons, Chicago	(1904)	Wisconsin
Baltimore Medical College	(1902)	Virginia
John Hopkins University	(1906)	Maryland
University of Pennsylvania	(1902)	New York
Jefferson Medical College (1903) New Jersey;	(1910)	S. Carolina
Medical College of Virginia	(1909)	Virginia

* Took oral examination.

† Withdrew.

‡ Expelled from examination.

Indiana July Report

Dr. W. T. Gott, secretary of the Indiana Board of Medical Registration and Examination, reports the written examination held at Indianapolis, July 11-13, 1911. The number of subjects examined in was 16; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 107, of whom 100 passed, including one osteopath, and 7 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Yale University	(1888)	88.9
George Washington University	(1910)	84
Northwestern University Medical School (1910) 81, 86.5; (1911) 80.6, 83.1.		
Bennett Medical College	(1911)	82.9
Chicago College of Medicine and Surgery (1911) 80.1, 80.8, 87.9.		
Rush Medical College (1897) 76.1;	(1911)	86.6
Medical College of Indiana	(1890)	75
Indiana University (1911) 75.8, 76.1, 77.1, 77.7, 77.9, 78.7, 79.1, 79.1, 79.3, 79.4, 80.1, 80.1, 80.8, 81.2, 81.2, 81.7, 81.7, 81.9, 81.9, 82, 82.2, 82.5, 82.7, 83, 83.1, 83.5, 83.5, 83.6, 83.7, 83.9, 84.1, 84.2, 84.3, 84.6, 84.9, 84.9, 85.2, 85.3, 85.7, 85.9, 86.4, 86.6, 86.7, 86.7, 88.1, 88.5, 89, 89.6, 90, 90.2, 90.4, 94.7.		
University of Louisville (1906) 77; (1910) 76.6; (1911) 75, 76.7, 77, 77.8, 79.2, 82, 82.1, 82.4, 82.9, 85.9, 86, 88, 88.8, 89.		
Southwestern Homeopathic Med. College, Louisville	(1910)	75
Harvard Medical School	(1911)	83.4
Kansas City Hahnemann Medical College	(1911)	82.6
Starling-Ohio Medical College	(1911)	84.2
Clevelanc ollege	(1903)	75.2
Eclectic (1911) 75, 78.2, 78.3.		
Ohio-Mia (1910) 83.9;	(1911)	82.2, 86.4

Medico-Chirurgical College, Philadelphia	(1905)	85
Jefferson Medical College (1910) 89.9;	(1911)	84.5, 84.7
University of Virginia	(1880)	81.5
Marquette University	(1911)	83
University of Naples, Italy	(1906)	81.4

FAILED

Indiana University (1910) 53.2;	(1911)	65.5
University of Louisville (1910) 66.8, 69.1;	(1911)	67, 71.9
Eclectic Medical College, Cincinnati	(1911)	73.2

Indiana Reciprocity Report

Dr. W. T. Gott, secretary of the Indiana Board of Medical Registration and Examination, reports that twenty-five candidates have been licensed through reciprocity since January 1, 1911. The following colleges were represented:

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Northwestern University Medical School	(1906)	Illinois
American Medical Missionary College	(1909)	Michigan
Rush Medical College	(1906)	Ohio
Chicago College of Med. and Surgery (1902) (3, 1909)		Illinois
Coll. of Phys. and Surgs., Chicago (1905) (2, 1908)	(1909)	Illinois
Indiana University	(1909)	Colorado
Hospital College of Medicine, Louisville	(1906)	Kentucky
Univ. of Mich., Dept. of Med. and Surg. (1908) (2, 1909)		Michigan
Detroit College of Medicine	(1908)	Michigan
University of Michigan, Homeopathic College	(1903)	New York
University of Maryland	(1898)	Maryland
Ensworth Medical College	(1896)	Missouri
Cleveland College of Physicians and Surgeons	(1900)	Ohio
Cleveland Homeopathic Medical College	(1909)	Ohio
Western Reserve University	(1909)	Ohio
Ohio Medical University	(1905)	Ohio
Cleveland University of Medicine and Surgery	(1897)	Ohio

Massachusetts July Report

Dr. Edwin B. Harvey, secretary of the Massachusetts Board of Registration in Medicine, reports the written examination held at the State House, Boston, July 11-13, 1911. The number of subjects examined in was 13; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 147, of whom 94 passed, including 11 osteopaths and 2 non-graduates, and 53 failed, including 14 osteopaths and 11 non-graduates. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
[illegible]ity	(1911)	81.5
[illegible]y College	(1910)	75
[illegible] (1909) 76.2;	(1911)	75, 76, 77, 80.9
Baltimore University	(1906)	75.7
Maryland Medical College (1906) 75;	(1910)	75
Tufts College Medical School (1910) 75; (1911) 75, 75, 75, 75, 75, 75, 75, 75.2, 75.3, 76, 76.4, 77.6, 77.9, 78, 78.5, 78.5, 78.7, 79.3, 80, 80.1, 80.5, 81, 87.7.		
Harvard Medical School (1909) 76.7, 78.2, 78.3, 79.8; (1910) 77.9, 78.4; (1911) 75, 75, 75.1, 75.2, 75.8, 76.2, 76.2, 77.2, 77.2, 77.2, 77.5, 77.5, 77.7, 77.7, 77.8, 78.3, 78.4, 78.6, 79.9, 80.2, 80.5, 81, 81.5.		
Boston University (1911) 75, 75, 75, 76.2, 76.6, 77.5, 78.2, 78.4, 78.7, 81.		
University of Michigan, Dept. of Med. and Surg.	(1904)	75
Columbia University, Coll. of Phys. and Surgs.	(1900)	75
Long Island College Hospital	(1911)	80.8
University of Vermont (1909) 75, 75; (1910) 75;	(1911)	75
University of Naples, Italy	(1909)	75

FAILED

College	Year Grad.	Per Cent.
Kentucky University	(1904)	67.7
Maryland Medical College	(1910)	69.7
College of Physicians and Surgeons, Baltimore	(1910)	65.5
Baltimore Medical College	(1908)*	51.2
College of Physicians and Surgeons, Boston (1908) 64.5, 67; (1909) 69.4; (1910) 69.2, 71.4; (1911) 65.2, 65.5, 66.7, 70.4, 71.2.		
Boston University	(1911)	66.
Tufts College Medical School	(1911)	65.3, 69, 71.2, 71.2, 71.4
Harvard Medical School	(1911)	70.8
University of the South	(1908)	46.4
University of Vermont	(1894)	49.2
University College of Medicine, Richmond	(1907)	70.2
Laval University, Quebec (1904) 70.1;	(1911)	60.9, 64.6
Tiflis Medical College, Russia	(1878)	1.3

* A statement from the college says this candidate did not graduate.

Utah July Report

Dr. G. F. Harding, secretary of the Utah State Board of Medical Examiners, reports the written examination held at Salt Lake City, July 5-6, 1911. The number of subjects examined in was 22; percentage required to pass, 75. The total number of candidates examined was 5, all of whom passed. Eight candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Northwestern University Medical School	(1911)	86.4, 88.4
College of Physicians and Surgeons, Chicago	(1911)	82.8
Keokuk Medical Coll. of Phys. and Surgs.	(1905)	79.3
College of Physicians and Surgeons, Baltimore	(1911)	85.5

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Chi. Coll. of Med. and Surg. (1908) Colorado;	(1910)	Illinois
Illinois Medical College	(1909)	Illinois
State University of Iowa, College of Medicine	(1903)	Iowa
State University of Iowa, Homeopathic College	(1908)	Iowa
University of Michigan, Homeopathic Dept.	(1909)	Michigan
Columbus Medical College	(1889)	Missouri
Jefferson Medical College	(1908)	New York

California August Report

Dr. Charles L. Tisdale, secretary of the California State Board of Medical Examiners, reports the written examination held at San Francisco, August 1-4, 1911. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 163, of whom 127 passed, including 23 osteopaths, and 36 failed, including 15 osteopaths and 1 chiropractic. Two other candidates were licensed on the basis of honorable discharge from the U. S. Services. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of California (1911) 78.9, 82.1, 85.1, 85.2, 85.8, 85.8, 86.5, 86.9, 90.4.		
College of Physicians and Surgeons, San Francisco (1906) 75; (1909) 75, 75.6; (1911) 75.4, 77.3, 84.6, 84.9, 85.9.		
Hahnemann Medical College of the Pacific (1911) 77, 78.5, 82.5, 83.3, 84.1, 88.2.		
California Eclectic Medical College	(1906)	77.3
College of Physicians and Surgeons, Los Angeles (1908) 75; (1911) 75, 77.9, 80.7, 81.3, 84.		
Cooper Medical College (1910) 79.9, 81.1, 82.1; (1911) 81.5, 82.2, 84.1, 84.2, 86.1, 86.1, 86.2, 86.8, 87, 87.1, 87.5, 87.5, 87.7, 87.7, 87.9, 89, 89, 89.6, 89.9, 93.1.		
George Washington University	(1908)	75
Georgetown University	(1911)	84.6, 85.7
Atlanta College of Physicians and Surgeons	(1899)	76.9
Rush Medical College (1882) 84.9; (1897) 91.2; (1899) 93.8; (1900) 82.8, 84.2; (1909) 90.6.		
Northwestern University Medical School (1904) 77.6; (1909) 84.1; (1911) 79.1, 82.6, 90.4.		
College of Physicians and Surgeons, Chicago (1894) 81.1; (1897) 80; (1909) 90.6; (1902) 81.4; (1910) 78.8.		
State University of Iowa, Homeopathic College	(1893)	75
Baltimore Medical College	(1896)	89
Johns Hopkins University (1908) 85.8;	(1911)	83.3, 89.9
Harvard Medical School (1909) 86.5; (1910) 86.7;	(1911)	80.7
Univ. of Mich., Dept. of Med. and Surg. (1910) 78.6;	(1911)	87.3
Missouri Medical College	(1896)	80
Ensworth Medical College	(1908)	84.6
St. Louis University	(1911)	77.2, 77
Washington University, St. Louis	(1897)	82.3
Columbia Univ. Coll. of Phys. and Surgs. (1896) 81.3;	(1909)	90.2
New York University Medical College	(1893)	84.6
Long Island College Hospital	(1898)	76.1
Cornell University Medical College	(1911)	81.4
Miami Medical College	(1908)	79.2
Western Reserve University	(1902)	75.7
Ohio Medical University	(1898)	84.8
University of Pennsylvania (1909) 80.6;	(1911)	86.6
University of Pittsburg	(1910)	83.7
Medico-Chirurgical College, Philadelphia	(1911)	77.4
Woman's Medical College of Pennsylvania	(1910)	83.3
University of Texas	(1910)	75
Trinity Medical College, Ontario	(1898)	80
Society of Apothecaries, London*	(1900)	80

FAILED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Los Angeles	(1911)	70.1
Coll. of Phys. and Surgs., San Francisco (1902) 67.1;	(1911)	63.7
College of Physicians and Surgeons, Chicago	(1906)	69.4
Rush Medical College	(1884)	68.1
Northwestern University Woman's Med. School	(1881)†	75.8
College of Physicians and Surgeons, Keokuk	(1897)	66.3
Kentucky School of Medicine, Louisville	(1891)†	76.3
Louisville National Medical College	(1889)	33.4
Coll. of Phys. and Surgs., Baltimore (1888) 63.7;	(1890)	66.7
St. Louis University	(1906)	63.4
[illegible]	(1908)	71.1
[illegible]	(1894)	72.3
[illegible] Cleveland	(1880)	25.1
Cleveland Medical College, Homeopathic	(1892)	46.1
Hahnemann Medical College, Philadelphia	(1909)	61.7
University of Pennsylvania	(1911)	71.6
University of Naples, Italy	(1903)	51.3
University of Athens, Greece	(1902)	65.5

* Not a medical school, but a licensing body.

† Fell below 60 in one or more branches.

Book Notices

REPORT OF THE VICE COMMISSION OF MINNEAPOLIS TO HIS HONOR, JAMES C. HAYNES, MAYOR. Paper. Pp. 134. 1911.

This report, while not so exhaustive as the report of the Chicago Vice Commission, is yet a valuable contribution to the study of the vexing question of the regulation of vice in our large cities. The fact that Minneapolis under the present city administration is making a sincere effort to enforce the law and to do away with semi-official police regulation of vice, adds to the interest of this report. Quotations from letters from mayors, chiefs of police and others in American and European cities, appear throughout the report. The recommendation of the commission includes suggestions on law enforcement, increased police vigilance, cooperation of citizens, regulation of hotels, lodging-houses, etc. Of special interest are the recommendations, contained in paragraph V of the final sections of the report, in the interests of public health and safety. After recommending the establishment of hospital facilities for the treatment of specific cases, the commission recommends cooperation with the Hennepin County Medical Society and a careful study of the laws in various European nations and in other states, on such subjects as physical examination as a prerequisite to marriage, reporting of specific diseases, punishment for the wilful and negligent transmission of such diseases, compulsory methods for the prevention of infant blindness, and most important, the broadening of the medical practice acts so that the state board of medical examiners shall be given sufficient power and funds to control the quacks specializing in specific diseases. As only three of the fifteen members are physicians, and as the commission includes all professions and classes, this recommendation is particularly significant of the public realization of the importance of the work of the state board of examiners. This report cannot be overlooked by any one interested in the important question of vice regulation in our large cities.

DIGEST AND COMMENTS ON THE PHARMACOPEIA OF THE UNITED STATES OF AMERICA (EIGHTH DECENNIAL REVISION) AND THE NATIONAL FORMULARY (THIRD EDITION) FOR THE CALENDAR YEAR ENDING DEC. 31, 1908. By Murray Galt Motter and Martin I. Wilbert. Hyg. Lab. Bull. 75, U. S. P. H. and M.-H. S., Treasury Department, April, 1911. Paper. Pp. 564. Washington: Government Printing Office, 1911.

This bulletin is the fourth of the series and represents a comprehensive review of medical and pharmaceutic literature for the year 1908. While of interest primarily as a reflection of the work done in connection with pharmacopeial revision, these bulletins also serve to indicate the nature and kind of remedies that are being actively discussed by physicians in different parts of the world. It would appear, therefore, that to the physician who is desirous of securing reliable information regarding the remedies he is using, this bulletin will prove to be a mine of information. Not the least interesting of the several truths that are evidenced is the fact that the really active and efficient drugs are universally used not alone by regular practitioners but also by the followers of sectarian teachings or "pathies." On the other hand, it is evident that the literature relating to the use of many of the less well-established drugs is based on observations that are so unreliable, or at least questionable, that the mockery of their continuance as official articles must be apparent to every well-trained medical man.

EDUCATION AND PREVENTIVE MEDICINE. By N. E. Ditman, Ph.D., M.D. Paper. Price, 25 cents. Pp. 73. New York: Lemcke & Buechner, 1911.

"Great as has been the progress of civilization since the early centuries, there is no advance which compares in its influence on the happiness of mankind with the increased power to lessen physical suffering from disease and accident and to control the spread of pestilence." These are the opening words of this essay, originally printed in the *Columbia University Quarterly* for June, 1908, and now reprinted on account of the demand following an exhausted first edition. This is one of the best of many recent contributions on this subject, and the reprint, undoubtedly, will receive a wide circulation. Many charts and diagrams illustrate the text and a well-selected bibliography appears in the appendix.

DIE RÖNTGENSTRAHLEN IN DER GYNÄKOLOGIE MIT EINEM AUSBLICK AUF IHREN KÜNFTIGEN WERT FÜR SOZIALE UND SEXUELLE FRAGEN. Von Dr. Manfred Fraenkel, Charlottenburg. Paper. Price, 7.50 marks. Pp. 255, with 46 illustrations. Berlin: Richard Schoetz, Wilhelmstrasse 10, 1911.

This book contains a complete consideration of the subject of *x*-ray application in obstetrics and gynecology. The work is not only carefully elaborated with respect to every phase of the theme, but also includes a bibliography of the German and French literature. The study begins with a description of animal experimentation, especial reference being given to the atrophic influence of the rays on the ovary. The author then takes up what he considers a rational use of the Roentgen ray in gynecology, applying it with favorable results in such conditions as myomata, menorrhagia and metrorrhagia, dysmenorrhea and associated nervous conditions and endometritis of the hemorrhagic type. Application of the ray in carcinoma is discussed at length in a separate chapter, wherein the author claims certain rather indefinite advantages, particularly in the inoperable type.

The technic of application is described in detail, with abundant illustrations, Fraenkel placing much stress on the method of application as essential to securing desirable results.

In the use of the ray in pregnancy the danger of abortion is carefully pointed out. This is thought to be due to the influence of the rays on the syncytial elements of the placenta whereby this cell structure is destroyed or inhibited in its growth with a resultant separation. The danger of such a change is not, however, so great as has been claimed by certain investigators. The value of the ray in differential diagnosis, in differentiating uterine from extra-uterine pregnancy, in revealing twin pregnancy, etc., is brought out in detail. Fraenkel asserts also that "Roentgen examination" is of definite use in determining the probability of eventual complications where pregnancy coexists with tumors.

A TEXT-BOOK OF CHEMISTRY. For Students and Practitioners of Medicine, Pharmacy and Dentistry. By Edward Curtis Hill, M.S., M.D., Medical Analyst and Microscopist. Second Edition. Cloth. Price, $3.25 Pp. 659, with 114 illustrations. Philadelphia: F. A. Davis Co., 1911.

This is the second edition of this text and covers the same ground, but a little more fully, than the first edition. The scope of the book may best be understood from the parts into which the author has divided the material, viz.: "Medical Physics," "Chemical Philosophy," "Inorganic Chemistry," "The Carbon Compounds," "Analysis," "Incompatibility," "Sanitary Chemistry," "Toxicology," "Physiologic and Pathologic Chemistry," and "Clinical Chemistry." The text is intended for students and practitioners of medicines, pharmacy and dentistry, and is arranged and written with that end in view. None of the subjects taken up is considered in great detail, but all are covered so as to give a smattering of the various subjects, corresponding to the brief courses in chemistry given in many medical, dental and even pharmaceutical schools. The appearance in this edition of a chapter on the composition of proprietary remedies is commendable. Next to knowing the fundamentals of chemistry, the knowledge of the chemical composition of medicinal preparations is essential alike to physician, pharmacist and dentist to a scientific or rational pursuance of their several professions.

REMINISCENSES OF LINDA RICHARDS, AMERICA'S FIRST TRAINED NURSE Cloth. Price, $1 net. Pp. 121. Boston: Whitcomb & Barrows, 1911.

In this little book Miss Richards gives an account of the early days of trained nursing in this country and the establishment of training schools for nurses in connection with general hospitals, especially in New England, and the hospitals of Boston. Miss Richards' experiences have been varied, and she describes them in an interesting way. Especially fascinating is her story of her work in a missionary hospital in Japan. The training school which she organized there was at first under the control of the medical missionaries but later passed entirely into Japanese hands. Its graduates, she states, practically organized the Japanese Red Cross, and did good service in the Russo-Japanese war. The book should be of interest not only to nurses but also to physicians, especially those interested in hospital management.

Medicolegal

Constitutionality of Laws Prohibiting Discharge of Sewage Into Streams

(Town of Shelby vs. Cleveland Mill and Power Co. (N. C.), 71 S. E. R. 218)

The Supreme Court of North Carolina says that the defendant contended, as a matter of law, that it could not be restrained from emptying its raw sewage into the river some miles above the intake of the town's waterworks system, because that, prior to the enactment of the statute forbidding it, it had acquired what is called a prescriptive right to do so; that is, had a right acquired by over twenty years' continuous usage, and that consequently the statute, if it was ever intended to apply to such a case, was void to the extent that it undertook to deprive the defendant of a valuable property right without making compensation therefor.

There are authorities to the effect that, as against a private individual lower down on the stream, the right to pollute it to a greater extent than is permissible at common law may be acquired by prescription (long usage) by an upper riparian owner. But the right which the state was seeking to enforce through the statute in question was a public right—a right to protect the health of the people of the state. As against such public rights, prescription cannot run. There is no such thing as a prescriptive right to maintain a public nuisance. It followed that the defendant could not acquire any right by prescription, or otherwise, which would prevent the general assembly of the state, at any time, from exercising its police power to regulate the discharge of sewage into the river.

The issue attempted to be raised by the pleadings that the stream was not dangerously polluted by the raw sewage poured into it from a large mill settlement, working hundreds of operatives, could be of no avail to the defendant. That was a matter for the judgment of the legislature. Such legislation is preventive, and to limit it to cases in which actual injury is shown to have occurred would be to deprive it of its most effective force. To be of value, such laws must be able to restrain acts which have a tendency to produce public injury.

The second proposition of the defendant, that the right to drain its raw sewage into the river could not be taken from it without compensation, necessarily fell with the first. As the defendant could acquire no vested right of the character claimed, there was no taking of property for a public use, and nothing to compensate the defendant for. The state took no right from the defendant, but only described the conditions on which it might use the river for its private purposes.

Notice to Physician Not Notice to Company

(Lumpkin vs. Louisville & Nashville Railroad Co. (Ga.), 70 S. E. R. 1101)

The Supreme Court of Georgia holds that the mere allegation of notice to a physician, employed by a railroad company to treat injured persons, of the filing of a suit for damages, would not alone suffice to show notice to the company; it not appearing that dealing with litigation, or settlements, or the receipt of such notice, was a matter within the scope of the physician's employment. Moreover, special allegations of the petition in this case, by which it was sought to charge that the physician was the agent of the railroad company, whose knowledge would affect the company with notice, were not sufficient for that purpose.

City and Not State Must Bear Expenses of Quarantine

(City of Geneva vs. State (N. Y.), 128 N. Y. S. 570)

The Court of Claims of New York holds that, a theatrical troupe containing a case of small-pox having come to the city, the state department of health having been notified and the secretary of the State Board of Health having advised vaccination and keeping all exposed persons under strict observation until it proved successful, and a medical officer of the board having visited the city and advised quarantine, which was done, that did not make out a case of liability against the state. The city did only what was its bounden duty to do in the premises. It acted as much for its own preservation as for the state's welfare. The statute makes no provision for reimbursement, and the state officials did not even promise to repay. The claim should be dismissed.

Under the public health law, it was the legal duty of the local municipal board of health to report any case of small-pox within the municipality to the State Board of Health. It was also the duty of the municipality to guard against and prevent the introduction of any infectious disease, to enforce the isolation of all persons infected with it or exposed to it, and to provide suitable places for the quarantine and the care and treatment of such persons, and it was provided that these expenses so incurred by the local board of health should be a charge on the municipality. There is no provision in the statute for the reimbursement by the state of individuals or a locality for services rendered or expenses incurred, even under the direction of the State Board of Health.

Increase of Damages by Narcotics Prescribed in Injury Case

(Sumner vs. Kinney (Tex.), 136 S. W. R. 1192)

The Court of Civil Appeals of Texas affirms a judgment for the plaintiff, who brought the action to recover damages for wrongful assault, alleging his injuries to have been serious and that he suffered such pain that he had been obliged to resort to the use of opiates in order to obtain relief therefrom. The evidence showed that the narcotics given were necessary or proper to alleviate existing pain, in accordance with medical direction. The court holds that there was no error in a refusal to instruct the jury that if the plaintiff suffered physical pain and mental anguish, and was compelled to pay out money for medical treatment and the same was the result of the plaintiff's taking to excess narcotics, under the prescription of his medical adviser, or any person, then he would not be entitled to recover anything for the physical pain, mental anguish, and medical treatment, even though the defendant committed an unlawful assault and battery on him. The court says that it is of the opinion that what is done to an injured person in the way of proper medical treatment, applicable to him in his injured state, is attributable to the act causing the injury, as a proximate result thereof.

Good-Will Rights Attach to Practice of Medicine

(Maxwell vs. Sherman (Ala.), 55 So. R. 520)

The Supreme Court of Alabama holds that damages are recoverable for a breach of contract for the sale of the practice and good will of a practicing physician. The court says that while there has been some doubt expressed as to whether the matter of good will, as a property asset, can be applied to the practice of a physician, or other professional man, yet the weight of authority is that the good will of a physician or other professional man is a property asset, subject to disposal, within the limits prescribed, and in the same manner as the good will of any other business, and a breach of the same incurs the same liabilities.

Duty of Carriers to Women Passengers During Menstrual Periods and as to Waiting Rooms—Physical Examinations Cannot be Required

(Brackett vs. Southern Railway Co. (S. C.), 70 S. E. R. 1026)

The Supreme Court of South Carolina affirms a judgment for $200 damages in favor of the plaintiff for exposure during her menstrual period to cold in an unheated waiting-room which resulted in alleged serious and permanent sickness. The court says that it cannot accept the view that the presence of a woman's menstrual period is an abnormal condition, like weakness due to disease, of which the defendant was entitled to special notice. On the contrary, that condition is normal, and must be so regarded and taken notice of by carriers whose duty it is to provide reasonable accommodations for passengers of both sexes. That duty does not extend to making special provision, without notice, for women who are peculiarly delicate or abnormal in their susceptibility to cold in such condition, but it does extend to reasonable consideration and provision for the comfort of healthy women, whose capacity to travel is not materially affected by such condition.

Again, the court says that the public business of carrying passengers is now so controlled by a few persons or corporations that those who travel must of necessity use their stations and waiting-rooms, and with increasing population the number of persons using these stations is constantly on the increase. The arrangement for the comfort and health of all classes of the general public—women and children, the old and the feeble, the ignorant and inexperienced—are under the exclusive control of the carriers, and it seems but reasonable that they should be held to a very high degree of care in providing at their stations for the safety and comfort of those whom they impliedly invite to use their stations and waiting-rooms.

It was not error for the trial court to refuse to require the plaintiff to submit to a physical examination by disinterested physicians.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Yale Medical Journal, New Haven

June, XVIII, No. 1, pp. 1-112

1 Salvarsan in Syphilis. C. S. Stern, Hartford, Conn.
2 *Acute Pyelitis in Infants. W. G. Murphy, Hartford.
3 Treatment of Brain Injuries Associated with Fracture of Base of Skull. P. Watermann, Hartford.
4 *Case of Dermatomyositis. G. Blumer, New Haven.
5 Case of Metastatic Ophthalmitis in Puerperal Sepsis. E. M. Blake.

2. **Pyelitis in Infants.**—The prognosis of pyelitis, Murphy says, depends on the cause of the infection and the time it has continued. In uncomplicated cases the results are generally good. If secondary changes in the kidney have occurred the results are unfavorable. Much depends on the early recognition of the disease.

4. **Case of Dermatomyositis.**—Two years ago Blumer's patient had a mild attack of diphtheria. Two weeks after recovery from the diphtheria she had an attack of jaundice, and in the next few months seven attacks of tonsillitis. After one of the attacks of tonsillitis she had an attack similar to the present one, but confined to the legs below the knees. She had muscle pain, superficial edema and a hemorrhagic eruption over the affected parts. There was swelling of the small joints of the hands with this attack. The present illness is of two months' duration. She first had a bad attack of tonsillitis affecting both tonsils. There was no suppuration and she had home treatment. Soon after recovery she developed soreness of the muscles of the legs so that she was unable to walk. There was marked edema of the overlying skin, and many purpuric spots. Later the arms were similarly involved, and still later the face. There were spots like hives on the arms. There was no fever or at most slight fever at the onset. The face at the onset and long before edema appeared was intensely red for a day or two. Anorexia and constipation were present. When seen the main complaint was the soreness in the muscles and the swelling of the body.

This patient presented the cardinal features of dermatomyositis, pain in the muscles associated with induration and tenderness, edema of the overlying skin and dermatitis on the face in the form of a transient erythema, and on the legs as petechiæ. Points of interest in connection with the case are the following: 1. The family and personal history of asthma and other conditions suggesting hypersusceptibility to horse serum. Meltzer considers asthma a phenomenon of anaphylaxis. What relation may have existed between hypersusceptibility and the dermatomyositis is conjectural. 2. The recurrence of the disease, if the history is to be relied on. Apparently there was a mild attack limited to the legs before the more severe one. 3. The occurrence of both attacks after tonsillitis. In a good many instances this disease has followed infections.

Journal of Indiana State Medical Association, Ft. Wayne

September, IV, No. 9, pp. 359-418

6 Brain Tumor: Study of Twenty-Five Cases. G. W. McCaskey, Ft. Wayne, Ind.
7 Two Cases of Cancer of Prostate. J. Y. Welborn, Evansville, Ind.

Detroit Medical Journal

September, XI, No. 9, pp. 307-344

8 *Two Cases of Atypical Tabes. C. W. Hitchcock, Detroit.
9 Fibrinous Rhinitis. W. Chaney, Detroit.
10 Surgery of Soft Tissues of Hand. H. B. Garner, Detroit.

8. **Atypical Tabes.**—The unusual feature in the first case cited by Hitchcock is the persistence of the knee-jerk in so well-developed a case of tabes. In the second case, the characteristic pains, the Rombergism, the pedal ataxia, the slight impairment of gait, the sensory changes, the characteristic pupils, all point to a tabes, which, however, has affected the gross appearance of the patient uncommonly little.

Ophthalmic Record, Chicago

September, XX, No. 9, pp. 545-598

11 Sphero-Cylinder Trial Lenses. J. N. Rhoads, Philadelphia.
12 Position of Eye the Element of Safety in East Indian Extraction in Capsule. M. Standish, Boston.

Boston Medical Journal

October 5, CLXV, No. 14, pp. 505-544

13 Salvarsan from Clinical Standpoint. H. P. Towle, Boston.
14 Parasitology of Syphilis. H. C. Ernst, Jamaica Plain.
15 Chemistry of Salvarsan. W. F. Boos, Jamaica Plain.
16 Preparation of Salvarsan for Injection. J. Godsoe, Boston.
17 Clinical Observations on Use of Salvarsan, with Special Reference to Its Administration. H. Cabot, Boston.
18 Personal Impressions of Value of Salvarsan. S. Pollitzer, New York.
19 Personal Experience with Salvarsan. A. Post, Boston.
20 *Frequency of Venereal Diseases. Reply to Dr. Cabot. P. A. Morrow, New York.
21 Reminiscence of My Professional Life. D. W. Cheever, Boston.
22 Prognosis in Infantile Paralysis. B. E. Wood, Boston.

20. **Frequency of Venereal Diseases.**—In the present organization of our hospital system in this country the notoriously inadequate provisions made for the reception and treatment of venereal patients are held by Morrow to be a disgrace to our civilization. He says that it is recognized by those who are engaged in the campaign for the prevention of venereal diseases that curative treatment, by sterilizing sources of contagion, constitutes one of the most effective measures of prophylaxis. Prompt curative treatment is not only in the interest of the patients themselves, but especially in the interest of others they might infect. But everywhere we are confronted with this situation: there are no special hospitals for this class of diseases; few general hospitals receive them in the early, curable stage; still fewer have special venereal wards; even the dispensary services are not organized with special adaptation to the needs of venereal cases; few have night classes, and working people who go to the dispensary must lose half a day, which often means the sacrifice of their employment. As a consequence, they resort to quacks or the use of nostrums, they are not cured, but go on spreading the seeds of contagion.

Our hospital authorities are most loyal advocates of the policy of silence and concealment which has always served to cover up the enormous extent and dangers of venereal infection. By the system of nomenclature employed in the records all mention of gonorrhea and syphilis is excluded in thousands of cases indubitably of venereal origin, or presumptively so. It would be impossible for a physician, much less a layman, to obtain any correct idea of the amount of venereal morbidity in a general hospital from the examination of its records. It is only in the hospital records of the Army and Navy departments that gonorrhea and syphilis are always entered under their true names. As regards the venereal peril in our civil population, Morrow says that venereal diseases, viewed in their triple significance as a danger to the public health, a peril to the family, and a menace to the vitality, health and physical progress of the race, are the greatest of modern plagues, and that the prophylaxis of these diseases is the most pressing problem of preventive medicine that confronts us at the present day.

Iowa Medical Journal, Des Moines

September, No. 3, pp. 105-148

23 Tubal Sterilization. I. W. Littig, Davenport.
24 Roentgen Diagnosis. R. D. Mason, Omaha, Neb.
25 Prevention of Tuberculosis. C. J. Whalen, Chicago.
26 Glandular Fever. J. H. Darey, Sioux City.
27 Day at Grand Canyon. A. G. Field, Des Moines.
28 Alcohol in Medicine. W. F. Waugh, Chicago.

Journal of Experimental Medicine, New York

October, XIV, No. 4, pp. 339-444

29 Study of Simultaneous Tracings from the Apex of the Heart and Radial Artery with the Micrograph. A. C. Crehore, New York.
30 Study of Tracings from Region Near Apex of Heart. A. C. Crehore, New York.
31 Distribution and Direction of Motion of Interference Bands of Light Formed by Thin Plates as Thickness of Plate Varies. A. C. Crehore, New York.
32 *Experimental Acute Nephritis: Elimination of Nitrogen and Chlorids as Compared with that of Phenolsulphonephthalein. J. H. Austin and A. B. Eisenbrey, Philadelphia.
33 *Biologic Tests for Adrenalin in Blood, with Observations on Arterial Hypertonus. G. N. Stewart, Cleveland.
34 *Biliary Cirrhosis in Rabbit. M. L. Richardson, Madison.
35 *Optic Thalamus in Relation to Respiration, Circulation, Temperature and the Spleen. E. Sachs, New York.
36 *Method for Quantitative Determination of Bacteria in Feces. H. A. Mattill and P. B. Hawk, Urbana.

32. **Experimental Acute Nephritis.**—The authors found that uranium and cantharidin, in the smallest doses capable of producing a distinct nephritis, tend to increase the elimination of nitrogen, probably by stimulating tissue katabolism. Uranium, cantharidin, and potassium chromate, in larger doses, impair the power of the kidney to eliminate nitrogen; but this may not be evident unless the animal is on a high nitrogen diet, and the impairment, when due to potassium chromate, may not persist more than a day. Small doses of uranium and of cantharidin cause a transient increase of chlorid elimination which corresponds in a general way to the excess of diuresis. Large doses of uranium and of chromate cause a fall, usually transient, in the chlorid elimination. The chlorid elimination may, however, be diminished 40 per cent. for twenty-four hours without evidences of intoxication (vomiting). The anatomic appearance of the kidney varies somewhat with the poison used and greatly with the period of survival after administration of the poison, but bears no definite relation to the nitrogen, chlorid or phenolsulphonephthalein elimination; marked anatomic alteration is compatible with normal elimination of all these substances and with freedom from symptoms of intoxication (vomiting).

The decrease in the elimination of phenolsulphonephthalein, which occurs in uranium, chromate and cantharidin nephritides and which, in a general way, is proportional to the dose of the poison, bears no constant relation to the changes in the nitrogen or chlorid elimination. A marked decrease in the elimination of the phenolsulphonephthalein occurs synchronously, as a rule, with the onset of the symptoms of intoxication (vomiting), and therefore the phenolsulphonephthalein test would seem to be a better indicator of the ability of the kidney to eliminate the toxic substance responsible for the symptoms of renal insufficiency than are either the anatomic changes or the elimination of total nitrogen or of chlorids.

33. **Biologic Tests for Adrenalin in Blood.**—The combination of a biologic test object on which adrenalin causes contraction of smooth muscle (perfused blood-vessels or the uterus in certain conditions) with a biologic test object on which it produces inhibition of contraction of smooth muscle (intestine) Stewart says greatly diminishes the chance of error in testing blood (or other body liquids) for adrenalin. A control experiment with adrenalin solutions should, in general, accompany each observation on the blood. When properly chosen biologic tests are employed, no evidence is obtained of the presence of adrenalin in detectable amount in normal blood taken from the general circulation. In a case of nephritis with albuminuria and persistently high arterial pressure, the pressure was diminished by forced breathing. The washing out of carbon dioxid seemed to be a factor in this diminution as well as the mechanical interference with the circulation. In this case, the administration of large doses of sodium bicarbonate was associated with a marked diminution in the blood-pressure. In another case with persistently high blood-pressure, the drawing off of cerebrospinal fluid caused a distinct diminution in the arterial pressure, presumably by lowering the intracranial pressure. No pressor substance was detected in the cerebrospinal fluid.

34. **Biliary Cirrhosis in Rabbit.**—The statement concerning biliary cirrhosis which is commonly found in text-books on pathology is to the effect that obstruction of the bile duct without infection does not lead to cirrhosis of the liver. Richardson found, however, that ligation of the common bile-duct in the rabbit, without demonstrable succeeding infection, results in a cirrhosis of the liver.

35. **Relation of Optic Thalamus to Respiration.**—Sachs failed to find a center controlling respiration in the optic thalamus. He says that any changes in respiration observed on stimulation are reflex effects. The blood-pressure is not governed by any special center in the thalamus; the changes observed are, as a rule, pressor effects. Changes in pulse-rate do not occur from moderate thalmic excitation. There is no center controlling movements of the spleen; all changes are secondary to blood-pressure changes. The difference in respiratory effects noted on the stimulation of the thalamus and central gray matter are in all probability due to the stimulation of different paths going to the medullary centers. The globus pallidus has an entirely different effect on the respiration from the thalamus and hence is connected with a different part of the medullary center. The nucleus caudatus has no connection with the respiratory or circulatory mechanism. The optic thalamus, nucleus caudatus, and nucleus lenticularis contain no centers which on direct stimulation produce changes in temperature.

36. **Quantitative Determination of Fecal Bacteria.**—From results obtained by Mattill and Hawk it appears that the amount of bacterial nitrogen in the feces is a valuable index to intestinal conditions, and the method described by them is a simple and satisfactory one for making this determination. It involves three serial centrifugalizations of a 2 gm. sample of the fresh feces brought into suspension in 0.2 per cent. hydrochloric acid. The bacterial suspension finally obtained is concentrated and extracted by alcohol, and nitrogen is determined in the precipitated material. The complete data on a given stool can be obtained in about five days, and one operator can take care of three or four stools in duplicate in one day. On an absolutely uniform diet of simple and easily digested food during a period of three to four weeks, the average amount of bacterial nitrogen in two subjects was found to be 53.9 per cent. of the total fecal nitrogen, and this percentage, though higher than that obtained by workers heretofore, is probably more nearly a true value for bacterial nitrogen, because no ether extraction was employed. The average daily amount of dry bacteria, calculated on the basis of the nitrogen values, is 8.27 Gm.

Therapeutic Gazette, Detroit

September 15, XXXV, No. 9, pp. 609-684

37 Modern Surgical Treatment of Non-Strangulated Inguinal Hernia. C. W. Bonney, Philadelphia.
38 Hypodermic Use of Mercury in Treatment of Syphilis. W. D. Bieberbach, Worcester, Mass.
39 Acute Nephritis Following Intravenous Injection of Salvarsan. H. Tucker, Philadelphia.

Journal of Minnesota State Medical Association and Northwestern Lancet, Minneapolis

October 1, XXXI, No. 19, pp. 455-480

40 *Empyema of Gall-Bladder. B. A. Bobb, Mitchell, S. D.
41 Surgery of Gall-Bladder and Its Accessory Ducts. G. G. Cottam, Sioux Falls, S. D.
42 Treatment of Purulent Pleurisy. N. O. Ramstad, Bismarck, N. D.
43 *Nasal Catarrh, Neuralgias, Headaches and Other Symptoms Arising from Unsuspected Ethmoiditis. F. C. Todd, Minneapolis.

40. **Empyema of Gall-Bladder.**—Bobb does not believe that it is not necessary, as a rule, to remove the gall-bladder in these cases of empyema; drainage, if the mucosa is not all destroyed, being sufficient. He regards all cases of empyema of the gall-bladder as necessarily surgical, and suggests that if more cases of simple cholecystitis were operated on it would save the larger mortality that is obvious in empyema.

43. **Symptoms Due to Unsuspected Ethmoiditis.**—According to Todd it not infrequently happens that the antrum acts as a reservoir for the pus which originates in the ethmoidal or frontal cells, and hence efforts to cure an antrum abscess, without first curing the ethmoidal or frontal sinus abscess, prove futile, while, conversely, the curing of the latter will usually result in cure of the antrum disease without any attention being directed to the antrum itself.

Wisconsin Medical Journal

September 10, No. 4, pp. 183-242

44 *Essentials and Non-Essentials in Physical Diagnosis. R. C. Cabot, Boston.
45 Exophthalmic Goiter (Hyperthyroidism). L. F. Jermain. Milwaukee.
46 Salvarsan in Syphilis. O. H. Foerster, Milwaukee.

44. Abstracted in The Journal, July 22, 1911. p. 314.

New Orleans Medical and Surgical Journal

October, 64, No. 4, pp. 259-333

47 *Gall-Bladder and Biliary Tract an Available Therapeutic Route to Upper Bowel. R. Matas, New Orleans.
48 Syphilis of Liver. C. L. Eshleman, New Orleans.
49 Case of Extrauterine Pregnancy. H. W. Kostmayer, New Orleans.
50 Recent Advances in Local Anesthesia. C. W. Allen, New Orleans.
51 *Obstinate Pruritus Cured by Excision of External Organs of Generation. C. G. Cole, New Orleans.

47. Abstracted in The Journal, Jan. 14, 1911, p. 141.

51. **Treatment of Pruritus.**—After all local and constitutional measures had failed to give relief to a woman, 33 years old, Cole removed the clitoris and its prepuce, part of the mons, the labia minora, part of the vestibule, and the integument from the inner aspect of the labia majora. On examination the inner surfaces of the labia majora were found to be whitish in character and the epidermis very much thickened, the labia minora not prominent, and the clitoris was almost completely concealed beneath the prepucial tissues, which were white, indurated and very much thickened. Further from the center of involvement the surface had a reddish, shiny appearance, and some small ulcerative areas were present, with marked manifestation of undue manipulation of the parts excited by unbearable itching. The symptoms were immediately relieved. The wound healed by primary union. Four months have elapsed, with no return of symptoms, and the patient feels much elated with her condition.

Proctologist, St. Louis

September, V, No. 3, pp. 113-172

52 Proctology in Undergraduate Medical School. B. J. Dreyfuss, New York.
53 Proctologic Education in Undergraduate University Medical School. R. H. Barnes, St. Louis.
54 Delimination of Rectum and Its Subdivisions. F. W. Jones, England.

American Journal of Diseases of Children, Chicago

October, II, No. 4, pp. 221-291

55 *Epidemiologic and Etiologic Studies of Acute Poliomyelitis in Pennsylvania. S. G. D[illegible]
56 *Relationship of Gastric to [illegible] in Infants. J. P. Sedgwick and F. [illegible]
57 Hippuric Acid in Urine of Normal Breast-Fed Infants. S. Amberg and J. H. M. Knox, Jr., Baltimore.
58 Acid Control of Pylorus in Infants. D. M. Cowie and W. Lyon, Ann Arbor.
59 *Relation of Meat Ingestion to Indicanuria in Children. E. C. Fleischner, San Francisco.
60 *Treatment of Chronic Nephritis in Children by *Edebohl's* Operation. H. Koplik, New York.

55. **Acute Poliomyelitis in Pennsylvania.**—Out of 773 cases of poliomyelitis studied carefully by the department of health of the state of Pennsylvania, fifty-nine gave a distinct history of exposure to previous cases. Nationality seemed to play no particular part in this disease, the vast majority of those contracting poliomyelitis being American-born. Out of this series of cases 437 were males and 336 were females. But three of the colored race (two males and one female) sickened. In forty-four instances secondary cases developed in the household. Other acute illnesses two months prior to the development of infantile paralysis seemed to show but little influence. Great exposure to heat, cold and dampness was noted in comparatively few instances. A total of thirty patients are reported to have met with some minor accident a short time previous to the onset of poliomyelitis. Overexertion was reported in only twenty-eight cases. In a few instances (thirty-four) evidence of insect bites was noted.

In this series of 733 cases, 142 patients (18.4 per cent.) recovered without paralysis and 294 (71.6 per cent.) recovered with considerable residual paralysis. Housing conditions show that in 149 instances the individual sickened in a large home; in 219 instances in a medium-sized home, and in 164 instances in a small dwelling. When classified with reference to the number of members of the household the tabulation shows two instances in a family of one; thirteen in a family of two; eighty-six in a family of three; 154 in a family of four; 121 in a family of five; ninety-five in a family of six; sixty-two in a family of seven; thirty-three in a family of eight; twenty-three in a family of nine; twenty-three in a family of ten and over. These figures establish the fact that the danger of transmission from one member of the household to another member of the same household is not great. In 289 instances children slept in the same bed-room, only twenty-four contracted the disease.

In nine instances the disease developed in children after having visited communities where this disease was known to be prevalent. In five cases the possibility of transmission through a second individual seemed probable. In many histories rats were reported on the premises. Field mice were frequently found. Unusual insects were reported in eighteen instances.

In examining the blood from acute cases of poliomyelitis in human beings, and also in monkeys in which the disease was produced experimentally, an organism was found different in morphologic characteristics from any heretofore described. Blood-smears being fixed in methyl alcohol for one minute and stained with carbol-thionin, show the organism as a faintly-stained blue rod with regular cell wall about 10 microns long and about 8 microns in width, curved at an angle of 60 to 75 degrees at one end, occasionally at both ends. At times, the curved end is bulbous. Some of the organisms appear to have a very finely granular protoplasm when the highest amplification is employed. They may be discerned by means of a 4 mm. dry objective but their characteristics are much more satisfactorily delineated under the 1/12 oil-immersion lens. They are found free in the serum as well as within the body of the red blood-cell. The organisms do not retain the violet color when stained by the method of Gram but assume the color of the counter stain which, as generally used in this laboratory, is a very dilute solution of carbol-fuchsin.

The bloods examined were from ten different cases of acute poliomyelitis in children, and from thirteen cases of the disease during the acute stage, which had been produced experimentally in as many monkeys. Blood-smears from three normal human beings were carefully examined and although the search for these organisms was diligently made, none was found. Smears were made from the blood of thirteen normal monkeys with negative results. After inoculation with the virus these same monkeys gave positive results. The blood of other normal monkeys gave negative results. Blood-smears were stained with iodin and sulphuric acid in order to test the organisms for cellulose, but no blue stained organisms were seen. Smears from the cords and brains of paralyzed monkeys, and from one human case were examined, but none of the new organisms was found. Filtered virus stained with carbolthionin and by Gram's method showed none of these organisms. Defibrinated blood, three weeks to two months old, from two paralyzed monkeys, showed the forms in increased numbers. Cultures made from the blood of a paralyzed monkey, in blood bouillon, plain bouillon and blood-agar, examined after having been inoculated three weeks, showed the presence of the organism in increased numbers. Dorsett's egg medium was inoculated with the same blood at the same time but the organism was not found in smears from the surface of the medium or from the water of condensation. Experiments on the production of poliomyelitis in monkeys by using this organism are in progress.

56. **Gastric and Pancreatic Fat Digestion in Infants.**—The authors conclude that the neutralization of the fat gastric digestion does not end the function of the gastric lipase of the dog or infant. Whether the effect shown is a summation of, or a relationship between, the actions of the two ferments, preparatory or activating, their experimental results do not permit them to state with certainty. They believe it to be justifiable, however, to conclude that the function of the gastric lipase of the infant is not ended when the gastric contents pass the pylorus and are neutralized in the duodenum.

59. **Meat Ingestion and Indicanuria in Children.**—The following is a brief resumé of the results obtained by Fleischner: With an ordinary diet containing meat once daily, children 6, 9 and 12 years old succeed in digesting their food fairly well without much putrefaction in the intestinal tract. Three-year-old children, on the other hand, with the same diet are much more apt to show indicanuria. The giving of meat twice daily produces in 9- and 12-year-old children practically no change in the amount of intestinal putrefaction. In 6- and even more markedly in 3-year-old children meat given twice daily gives rise to a decided increase in the indicanuria and is a cause of pronounced intestinal putrefaction. As limited as these observations may be, they seem to point to one definite conclusion, and that is that the giving of meat more than once daily to children under 9 years of age is a practice conducive to intestinal putrefaction and indicanuria, and is to be deprecated on account of the harm resulting to the organism from the constant presence of abnormal products of putrefaction.

60. **Treatment of Chronic Nephritis in Children.**—The five cases cited by Koplik seem to have strengthened his belief in the efficacy of this operation.

Journal of Oklahoma State Medical Association, Muskogee

October, IV, No. 4, pp. 173-219

61 Chronic Ulcer of Duodenum. H. Reed, Oklahoma City.
62 Roentgen Ray a Solution of Some Fracture Problems. E. S. Lain, Oklahoma City.
63 Wassermann Reaction: Its Principles and Technic. C. J. Fishman, Oklahoma City.
64 Diagnosis and Treatment of Congenital Syphilis. L. J. Moorman, Oklahoma City.
65 Injuries of Eyeball and Its Appendages. E. F. Davis, Oklahoma City.
66 Scarlet Fever: Etiology of Its Sequelæ. L. E. Andrews, Oklahoma City.
67 Emphysematous Gangrene of Uterus, Bladder and Rectum. J. W. Riley, Oklahoma City.

Maryland Medical Journal, Baltimore

October, 54, No. 10, pp. 283-308

68 *Neuritis Puerperalis. I. J. Spear, Baltimore.
69 Three Cases Illustrating Less Usual Types of Poliomyelitis. T. A. Williams, Washington, D. C.
70 University Hospital Laboratory Report on Wassermann Reaction. H. J. Maldeis, Baltimore.
71 Some Tendencies in Medical Education in United States. L. F. Barker, Baltimore.

68. **Neuritis Puerperalis.**—Two cases are reported by Spear. In the first case there is a history of a very probable multiple neuritis complicating a pregnancy that occurred five years ago. In this attack it is perfectly possible to exclude all forms of exogenous toxemia, trauma, infectious diseases, etc. This woman was desperately ill from her hyperemesis gravidarium, and had a typical multiple neuritis. The institution of the proper treatment for the hyperemesis gravidarium with only slight treatment directed toward the multiple neuritis resulted in a prompt and perfect recovery. In the second case the patient had all the signs and symptoms of a severe case of multiple neuritis, with marked disturbance of memory for recent events, presenting a typical picture of Korsakow's disease. From a very careful inquiry of her surroundings, habits, etc., chronic alcoholism could be excluded absolutely. Korsakow's syndrome can be caused by some other toxin than alcohol.

Mississippi Medical Monthly, Vicksburg

October, XVI, No. 6, pp. 107-126

72 Cause and Treatment of Uterine Hemorrhage. S. A. Eggleston, Lexington.
73 Surgery of Appendix Vermiformis. J. W. Barksdale, Winona.
74 Acute Parenchymatous Nephritis. J. O. Gurney, Tupelo.
75 Several Lists for Obstetric Use. S. Myers, Vicksburg.

Monthly Cyclopedia and Medical Bulletin, Philadelphia

September, XIV, No. 9, pp. 513-576

76 *Bromatotherapy. H. W. Wiley, Washington, D. C.
77 *Dioxydiamidoarsenobenzol (Salvarsan) as Patented Product. F. E. Stewart, Germantown, Pa.
78 Administration of Tuberculin in Pulmonary Tuberculosis. F. N. Robinson, Monrovia, Cal.
79 Practical Hearing Tests. H. O. Reik, Baltimore.
80 *Active Immunization with Respect to Micrococcus Aureus in Animals Completely Pancreatectomized. B. A. Thomas and M. MacPhail, Philadelphia.
81 Spleen and Chronic Constipation and Preliminary Note on Pineal Gland and Corpus Luteum. I. Ott and J. C. Scott, Philadelphia

76 and 77. Abstracted in THE JOURNAL, June 3, 1911, p. 1676.

80. **Active Immunization in Animals.**—Complete extirpation of the pancreas must necessarily result in profound disturbances of metabolism, but it was thought by the authors that notwithstanding such disturbances a very definite relation might still be shown to exist in the diminished resistance which such a pancreatectomized animal would present to bacterial infection. Ten dogs were used in the experiments. No. 1 was used as the index of unity, for obtaining leukocytes and normal serum in the determination of the opsonic indices. Nos. 2 and 3, which were neither pancreatectomized nor inoculated, were used as normal controls. Nos. 4 and 5 were not pancreatectomized, but were inoculated; these they called controls. The remaining five dogs were pancreatectomized. The opsonic indices of all of the ten animals were determined according to Wright's method previous to and five days subsequent to the operations, and thereafter at seven-day intervals for a period of six weeks. The organism used in obtaining the indices and for the preparation of the bacterin was the same strain of *Micrococcus aureus*. In ascertaining the indices, there were counted in each case 100 leukocytes with their bacterial contents.

Five days after the opsonic indices of all animals were determined. Dog 7 died six days after the operation. One pancreatectomized dog, No. 10, was not given an inoculation, but was used as a control. One week subsequent to the operations the remaining pancreatectomized animals, Nos. 6, 8 and 9, and the two controls, Nos. 4 and 5, were inoculated with a sterilized suspension of the *Micrococcus aureus*, the dose in each case being 400,000,000 bacteria. No. 8 died five days after the inoculation, so that in this case also the authors were unable to obtain more than one index. Two more inoculations of the sterilized bacterin were given at seven-day intervals, each dose being increased by 200,000,000 and 400,000,000, respectively, and the opsonic indices determined after the time the positive phase should have been reached. Four weeks after the operations and one week subsequent to the last inoculation of the sterilized bacterin, two injections of live cocci were given in respective doses of 150,000,000 and 225,000,000 at seven-day intervals. The authors were unable to give more than two inoculations of the live organisms to the pancreatectomized animals, as they died six weeks after the operations; but the controls, Nos. 4 and 5, received seven inoculations in all, of the live becterin, at seven-day intervals, each dose being increased by 75,000,000, thus bringing the last dose up to 600,000,000. Subsequent autopsy in the operative cases proved that the entire pancreas had been removed in each one. Urine was collected and tested for sugar with positive results; tests for acetone also were positive.

They have drawn several conclusions: 1. The gradually declining indices of the pancreatectomized dogs, inoculated and non-inoculated, as contrasted with the practically even index curves of the normal controls, show a diminution in the mechanism for the production of immunity, since the index curves of the two dogs which received bacterins show no pronounced difference from that of the animal which did not. 2. A comparison of this almost regular decline with the gradual rise of the indices of the non-pancreatectomized, but inoculated, animals would seem to indicate that the production of this protective mechanism depends, at least in part, on the functional activity of the pancreas. 3. The fact that the index curve in dog 10, which was not inoculated, differs so slightly from those of the pancreatectomized and inoculated dogs would furnish an explanation, in part, of the liability of diabetics to staphylococcus infection, as evidenced by the frequency of boils and carbuncles in such cases. A study of the curves in animals 4 and 5 would seem to show that in a normal healthy animal a more pronounced immunity may be obtained by the use of a sterilized bacterin.

Journal of Arkansas Medical Society, Little Rock

August, VIII, No. 3, pp. 67-101

82 *Correlation of Diseases of Kidneys, Heart, Digestive Tract and Organs of Respiration. E. G. Epler, Fort Smith.
83 *Syphilis and Problems in Its Prevention. E. Myers, Fort Smith.

84 Treatment of Syphilis with Salvarsan. H. P. Collings, Hot Springs.
85 *Symmetrical Gangrene. W. R. Bathurst, Little Rock.
86 Treatment of Syphilis with Salvarsan. L. O. Thompson, Little Rock.

82. 83 and 85. Abstracted in THE JOURNAL, July 8, 1911, pp. 156 and 157.

Archives of Pediatrics, New York

September, XXVIII, No. 9, pp. 721-800

87 *Ready Method of Calculating Milk Formulas of Various Percentages and Caloric Value of Same. L. E. Holt, New York.
88 *Hospitals for Care of Infants and Children and Methods of Prevention of Infection. H. Koplik, New York.
89 Ward Improvements; Crib Warmer; Management of Carriers; Prevention of Epidemics. W. P. Northrup, New York.
90 Ward Problems. F. Huber, New York.
91 Management of Pediatric Service in General Hospitals. J. F. Bell, Englewood, N. J.
92 *Surgical Management of Acute Abscesses of Lymph-Nodes in Infancy. T. S. Southworth, New York.
93 *Treatment of Furunculosis in Children by Bacterial Vaccines. C. L. McDonald, Cleveland, Ohio.

87. **Method of Calculating Milk Formulas.**—Starting with the belief that in practice it is unnecessary that the percentage of fat should ever be more than twice that of the protein. Holt has found it easy to construct a table by which a series of formulas can be obtained in which the fat may be as high as twice the protein, and as low as only a little more than one-fourth the protein, with all the variations between these extreme limits. The first step is to secure milks which contain different fat percentages: 7 per cent. of fat, 6 per cent., 5, 4, 3, 2 and 1 per cent. How this is done from 1 quart bottle of milk which has 4 per cent. of fat, and one which has 5 per cent. of fat is shown in the following table:

1 ounce milk sugar by weight in 20-ounce mixture adds 5 per cent.
1 ounce milk sugar by volume in 20-ounce mixture adds about 3 per cent.
1 even tablespoonful in 20-ounce mixture adds 1.75 per cent.

Every ounce of 7 per cent. milk in a 20-ounce mixture will add 1/20 of 7 per cent., or .35 per cent. of fat; every ounce of 6 per cent. milk will add .30 fat; every ounce of 5 per cent. milk will add .25 fat, etc. Every ounce of each of these milks will also carry with it .175 per cent. of protein and .225 of sugar. In the case of a young infant for whom .70 per cent. of protein is proper, 4 ounces of milk in 20 ounces of food will be required. If this 4 ounces is of 7 per cent. milk the food will have 1.40 per cent. of fat; if it is 6 per cent. milk the food will have 1.20 fat; if 5 per cent. 1.00, etc. To raise both the fat and the protein proportionally the next increase would be to use 5 ounces of 7 per cent. milk in 20 ounces of food; later 6 ounces in 20; 7 ounces in 20, etc., etc.

To raise the protein above .70 but without increasing the fat, this can be done by using 1 ounce more of milk in 20, but of the series containing the next lower fat; e. g., 5 ounces of 6 per cent.; 6 ounces of 5 per cent.; 7 ounces of 4 per cent., and 9 ounces of 3 per cent., all give approximately the same fat while the protein is raised successively from .70 to .85, 1.05, 1.20 and 1.60 per cent. In calculating the sugar percentage it is necessary only to see how much must be added to that already in the milk to bring it up to the percentage desired, remembering that:

	From 4 Per Cent. Milk.	From 5 Per Cent. Milk.
To obtain 7 per cent milk use	upper 16 oz.	upper 20 oz.
To obtain 6 per cent. milk use	upper 20 oz.	upper 24 oz.
To obtain 5 per cent. milk use	upper 24 oz.	all
To obtain 4 per cent. milk use	all	remainder after skimming off 2 oz.
To obtain 3 per cent. milk use	remainder after skimming off 2 oz.	remainder after skimming off 3 oz.
To obtain 2 per cent. milk use	remainder after skimming off 4 oz.	remainder after skimming off 5 oz.
To obtain 1 per cent. milk use	remainder after skimming off 8 oz.	remainder after skimming off 8 oz.

When more than 20 ounces of food is to be made up one should add for 25 ounces one-quarter more of each ingredient; for 30 ounces one-half more; for 40 ounces twice as much, etc. In order to calculate the caloric value of the food quickly it is only necessary to note the number of ounces of the milk used in the formula, multiply this by the caloric value of 1 ounce, and add the caloric value of the sugar or barley used in the formula.

88. Abstracted in THE JOURNAL, July 8, 1911, p. 152.

92. **Surgical Management of Acute Abscesses.**—Southworth says that in the common acute type of glandular suppuration in infancy and early childhood suppuration is not diffuse, but more or less limited by the line of the distended capsule of the gland. The infection having been rounded up and brought under control by the sacrifice of the parenchyma of the gland, Nature seeks as speedily as possible to evacuate the pus and detritus. Therefore, in incising such abscesses do not check a destructive process by heroic measures, but give just the requisite amount of aid to complete a conservative process. When this is accomplished, restitution of the surrounding tissues proceeds with the greatest rapidity.

93. **Treatment of Furunculosis in Children.**—In the past three years McDonald has treated twenty-eight cases in children varying in age from 2 months to 3 years with bacterial vaccines including those with a few scattered furuncles here and there to cases in which they were so large and numerous that it was difficult to find a spot not infected for the passage of the hypodermic needle. The staphylococcus aureus and albus were the causative organisms in all cases. The average initial dose was 25,000,000 staphylococci. Some cases received as high as 150,000,000 without untoward results. The average number of inoculations per patient were three, spaced seven days apart. In three cases there was light redness and swelling at the point of inoculation, which subsided in two or three days. It was not an uncommon occurrence for a fresh crop of furuncles, usually small in size, to appear two or three days after the first inoculation. This, however, did not follow subsequent inoculations.

American Medicine, Burlington

September, VI, No. 9, pp. 447-504

94 Treatment of Chronic Nephritis. G. F. Butler, Wilmette, Ill.
95 Cocainism. G. C. Biondi, New York.
96 Status of Pathology in Medical Science of Modern Times. L. Koempel, Brooklyn.
97 Cryptogenetic Metastatic Uveitis. H. Friedenwald, Baltimore.
98 Modern Treatment of Tuberculosis. O. L. Mulot, Brooklyn.
99 Case of Congenital Syphilis in Infant Treated by Administration of Salvarsan to the Mother: Result Unsuccessful. A. L. Wolbarst, New York.
100 Traumatic Hypnotism. A. MacDonald, Washington, D. C.
101 Vaccine Therapy in Gonorrhea. J. S. Read, Rochester, N. Y.
102 Old Age and Nuclein. W. F. Waugh, Chicago.
103 Vegetable and Fruit Foods. E. Lee, New York.

Medical Record, New York

October 7, 80, No. 15, pp. 709-758

104 *Bacillus Coli Infection of Urinary Tract. R. M. Rawls, New York.
105 *Four Cases of Chronic Dysentery Non-Amebic in Nature. A. Bassler, New York.
106 New Thermo-Therapeutic Method in Gynecologic Cases. S. Flatau, Nuremberg, Germany.
107 Masters of Medicine as Exponents of Medical Ideals. W. B. Konkle, Montoursville, Pa.
108 Treatment of Tetanus. J. N. Henry, Philadelphia.
109 The Strenuous Life. I. L. Nascher, New York.
110 Operation for Hypospadias: Its Present Status. E. C. Beck, New York.
111 Case of Congenital Cavernous Angioma of Neck. A. J. Gilmour, New York.
112 New Hysterectomy Clamp. H. Crutcher, Roswell, N. M.

104. **Bacillus Coli Infection of Urinary Tract.**—During the past two years Rawls has observed quite a number of colon bacillus infections of the urinary tract. He is convinced that in a certain percentage of adults, even in health, the *B. coli* is taken up by the lymphatics and blood-vessels of the intestines and deposited by the blood-current in the kidneys. The number and virulence of these microorganisms depend on the intestinal disturbance and the particular strain present. The greatest predisposing cause of *B. coli* infection of the urinary tract, in his opinion, is anything that interferes with a free secretion of urine or causes any back pressure in the urinary tract. The earliest symptoms of such infection of the urinary tract are apt to be mistaken for those of a mild cystitis, whereas the real site of infection is most often higher up in the urinary tract and of more serious pathologic import. With greater care in diagnosis, Rawls says, we will find that *B. coli* infections of the urinary tract are likely to be mistaken for other acute conditions, such as appendicitis, malaria, intestinal indigestion, toxemia of pregnancy, ether nephritis, and acute and chronic nephritis. This is especially true of postoperative gynecologic cases.

105. **Chronic Dysentery Non-Amebic in Nature.**—Observation of four cases has convinced Bassler that there is a chronic form of dysentery due to the *B. coli communis*, and that these cases are not uncommon in the temperate climates. The form of infecting organisms does not correspond to the Shiga or the mannite-fermenting types, and that they are not possible of differentiation from the known forms of *B. coli communis* of high virulence. The serums from Bassler's cases strongly agglutinated the organisms obtained from that person and more definitely than they did the strains of *B. coli communis* ordinarily obtained and used in laboratory observations. The organisms existed in large numbers in the lower intestinal tract of the patients, mostly in the mucus, and that they are capable of destruction of tissue locally with the production of ulcers and then living within the tissue of the gut wall in the bases of them. In the etiology of these cases Bassler says we are dealing either with a definite organism of the *B. coli* group, or with *B. coli communis* of a high virulence, strongly hemiparasitic in nature and from which the aggressin production is overwhelming and against the effects of which in susceptible individuals the body cannot resist local tissue infection.

Louisville Monthly Journal of Medicine and Surgery

October, 18, No. 5, pp. 129-160

113 Cases Illustrating Some Phases of Cholecystitis. L. Frank, Louisville, Ky.
114 Transverse Myelitis at First Lumbar Level, Ushered in by Intense and Prolonged Testicular Pain, Due to Poliomyelitis. T. A. Williams, Washington, D. C.
115 Dangers of Tonsil Dissection. A. O. Pfingst, Louisville.
116 European Travel Notes. A. Schachner, Louisville.
117 Atypical Diphtheria. Atypical Scarlatina. H. E. Tuley, Louisville.

New York Medical Journal

October 7, XCIV, No. 15, pp. 713-764

118 Nauheim Treatment of Chronic Disease of Heart. J. M. Swan, Watkins, N. Y.
119 *Surgical Consideration of Carcinoma of Stomach. J. F. Erdmann, New York.
120 Roentgen-Ray Diagnosis of Ulcer of Stomach and Duodenum, Embracing Seventy-five Cases. H. Adler and H. E. Ashbury, Baltimore.
121 Fatal Ve illson, Philadelphia.
122 Music as ott, Dublin, Ireland.
123 Case of Palsy. T. A. Williams, Washington, D. C.
124 Indications in Psoriasis. F. C. Curtis, Albany, N. Y.
125 *Achroodextrin Saturation Test. H. Weinstein, New York.

119. **Cancer of Stomach.**—Erdmann has done fourteen partial gastrectomies with pylorectomies during the past two years. Of these, one was for a marked induration with ulcer, one in a case accompanied by transverse colectomy, and another in which a removal of the greater portion of the transverse colon was necessitated by injury to the colica media. The others were typical operations of this class. The ages varied from 28 years in a male, with infiltrating carcinoma implanted on a saddle ulcer, to 68 years, in a male in whom the entire transverse colon was removed. In addition to these fourteen he has done a partial gastrectomy with plastic repair in a male for sarcoma of the greater curvature. Of the fourteen gastrectomies the two complicated with colectomy ended fatally, and two of the typical excisions were also fatal, giving a mortality in the typical, noncomplicated cases of three deaths out of thirteen, including the one of injury to the transverse colon as a typical one or 23 per cent. One of the patients in the typical cases did very well until his seventh day, when he refused food, practically starving to death. The other death was due to taking an undue hemoglobin risk, the percentage being well below forty. Death followed in thirty-six hours.

As for the after-care: Erdmann has never hesitated to give these patients water a few hours after the operation. They are placed in the semisitting position as soon as they are in bed. After the first six to twelve hours nourishing liquids, usually albumin water or broths, are given; then milk. On the third day soft foods, and from the fifth to the seventh day creamed potatoes, spinach, and thoroughly masticated meats are allowed. In fact, the patient craves fluids and food, and these are rushed in small quantities frequently given. The patients are allowed to be out of bed about the fourth day, all things being equal, and walk about, from the seventh to the tenth days. Erdmann agrees with Rodman that, when the *stomach is exposed and a marked* induration is found even if we are satisfied that it is due to ulcer, an excision of the ulcer bearing area is the operation of choice and necessity.

125. **Achroodextrin Saturation Test.**—Summing up his clinical experience Weinstein concludes that achroodextrin and erythrodextrin are both frequently found in hyperchlorhydria, and amylodextrin may be absent. In normal secretion there may be no erythrodextrin, but small quantities of achroodextrin and a preponderance of amidulin may be found. Even in subacidity there may be no erythrodextrin, while achroodextrin and amidulin may both be present. All the dextrins may frequently be demonstrated in the filtrate, irrespective of the secretory condition, excepting anacidity. Achroodextrin and maltose are almost always present in the filtrate. From these results it would appear that some other factors, besides the state of secretion, play an important rôle in influencing the amylolytic process in the stomach. The examinations were confined solely to the aspirated stomach contents after an Ewald test breakfast. Realizing the coarseness of the test usually employed, Weinstein experimented with various dilutions of iodin until he decided on a 1 per cent. alcoholic solution of iodin as the most convenient reagent. He based his test on the property possessed by achroodextrin to absorb iodin without giving rise to a color reaction. As soon as all the achroodextrin in the solution has become saturated, the characteristic color reaction of the preponderating dextrin appears. Weinstein terms it the achroodextrin saturation test. The test is both qualitative and quantitative in character, and although the quantitative phase is not absolute it possesses some value for comparative purposes. The mode of procedure is a follows: To 5 c.c. of the filtrate the reagent is added drop by drop, all the while agitating the mixture, until a decided discoloration takes place. If the color reaction is faint, the number of drops requisite for its production constitutes the saturation index for achroodextrin; if intense, one drop below the number required for its production is to be taken as the index. The result is then computed in 100 c.c. If amylodextrin is present in the solution, the color reaction obtained is a faint blue, which deepens as the reagent is added drop by drop. If no change takes place from the violet blue color, there is no other dextrin in the solution. In the presence of erythrodextrin, however, the end reaction of amylodextrin is a mahogany brown color. In the absence of amidulin the color is reddish or brownish from the very beginning. There is then no need going any further, as this color change precludes the presence of amidulin. The quantity of erythrodextrin is in inverse ratio to the depth of color. It is of no practical advantage to determine the quantity of erythrodextrin, aside from its being extremely difficult to determine its end reaction.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

September 16, No. 2646, pp. 593-648

1 *External Polypoid Tumors of Stomach. J. Sherren.
2 *Management of Epidemic Summer Diarrhea and Vomiting, Including Use of Saline Injections. H. K. Waller and G. Walker.
3 *Case of Pleural Tuberculosis with Large Effusion. E. C. Carter.
4 *Detection of Tubercle Bacilli in Sputum. F. W. Eurich.
5 Nutritive Value of Flours. M. Flack and L. Hill.
6 Case of Septic Pneumonia Caused by Hatpin. L. C. V. Hardwicke.
7 *Some Circulation Factors Admitting of Easy Measurement. A. Haig.
8 *Presence of Valves in Veins of Portal System. D. P. D. Wilkie.
9 *Action of Ileo-Psoas Muscles. A. MacLennan.
10 Achondroplastic Skeleton. L. Graham.
11 Effect of Iso-Osmotic Solutions of Various Salts on Isometric Curve of Frog's Muscle. E. W. Carlier.
12 Physiology of Some Allyl Compounds. E. W. Carlier.
13 Some Physiologic Observations on Men Wearing Mine-Rescue Apparatus. D. F. Harris.
14 Tetrachromic Vision. F. W. Edridge-Green.
15 *Nutritive Effects of Beef Extract. W. H. Thompson, W. Caldwell and T. A. Wallace.
16 Some Notes on Variation. R. J. Anderson.

September 23, No. 2647, pp. 649-716

17 Treatment of Severe Talipes. R. P. Rowlands.
18 Case of Wry-Neck Following Infantile Paralysis. F. Hernaman-Johnson.
19 Four Hundred Cases of General Anesthesia Preceded by Scopolamin. F. Rood.
20 Brighton United Twins (Pygopagi). J. A. Rooth.
21 Treatment of Syphilis by Salvarsan. C. H. Browning and I. McKenzie.
22 Salvarsan in Leprosy. F. A. de Verteuil and F. L. de Verteuil.
23 *Merits of a Relatively Low Protein Diet. R. H. Chittenden.
24 Scope of Normal and Immune Serum in Treatment. T. J. Horder.
25 Continuous Antiseptic Inhalation in Treatment of Pulmonary Tuberculosis. C. Muthu.
26 Recent Developments in Recognition and Treatment of Syphilis. J. E. Lane, L. W. Harrison and J. E. R. McDonagh.
27 Use of Salvarsan in Syphilis. T. W. Gibbard and L. W. Harrison.

1. **External Polypoid Tumors of Stomach.**—Sherren describes pedunculated growths springing from the stomach. usually originating from its posterior surface near the greater curvature. They grow into and often become intimately adherent to the lesser peritoneal sac. In a few instances they have sprung from the lesser curvature and grown between the layers of the gastrohepatic omentum. These tumors are met with more often between the ages of 35 and 55, and are more common in women. Sherren has been able to collect eighteen cases in which the sex was mentioned; thirteen were women. The characteristic feature of a case of this nature is the discovery of a tumor in the upper or mid-abdomen in a patient whose chief or only complaint is abdominal discomfort. Occasionally the presence of an abdominal swelling is the only thing noticed. The tumors are smooth and rounded, often cystic and movable from side to side. In a woman the diagnosis of an ovarian tumor is almost inevitable if the tumor is large and fills the mid and lower abdomen. Operations were undertaken with this diagnosis in several cases.

Tumors of this type have certain features in common; they are mesoblastic in origin, and usually form polypoid masses hanging from the greater curvature of the stomach into the lesser sac, to which they become adherent. Their exact nature is only discovered on microscopic examination. They are usually malignant, and may start in the submucous, muscular or serous coats, but do not involve the mucous membrane. When originating in the first and last situations they are always malignant, but tumors described as myomata may grow from the muscular coat and present no sign of malignancy. In other cases with similar microscopic characters secondary deposits have been found—leiomyoma malignum. Thus in fourteen recorded cases of operation for gastric myoma four were of this nature. Diagnosis of their exact nature is impossible before operation. Treatment should be by removal with wide resection of the gastric wall from which the tumor springs.

2. **Epidemic Summer Diarrhea and Vomiting.**—Briefly, the method employed in the East London Hospital for Children, as described by Waller and Walker, is as follows: On admission the stomach is washed out with saline (0.9 per cent. solution) at a temperature of 110 F. The gastric contents are often exceedingly foul smelling and copious. With very few exceptions the vomiting ceases absolutely and does not recur. The rectum is next washed out with saline at a similar temperature, the irrigation continuing until the return flow is clear. If done in this order time is saved, as the bowels usually move freely during the gastric lavage, and the subsequent rectal irrigation is a shorter proceeding. If any great degree of collapse or shock is present a mustard bath, or in extreme cases, a mustard pack, is given, and is one of the most useful remedies that can be employed. The child will, as a rule, then sleep quietly for an hour or so, during which time a subcutaneous infusion of normal saline, or of a 5 per cent. solution of glucose in normal saline, is started.

3. **Pleural Tuberculosis with Large Effusion.**—In the case cited by Carter, that of a man 30 years old, 9 pints and 8 ounces (188 ounces) of clear yellow fluid were withdrawn from the right side through a small cannula in twenty minutes. At the end of the time the fluid was still running, but as the patient began to cough and his pulse showed irregularity, it was considered advisable to withdraw the instrument. Tapping was soon needed again, and 90 ounces and 100 ounces were removed on separate occasions from the right side, while the left side yielded 60 ounces once. The fluid removed presented the characters of an exudate rather than a transudate. Fraenkel's pneumococcus was recovered from it, but no tubercle bacilli The latter were also absent from the scanty sputum. Later 125 ounces were removed from the right chest with some temporary improvement. Tapping the pleura toward the end yielded very small amounts of fluid (2 ounces).

4. **Tubercle Bacilli in Sputum.**—The method used by Eurich is the one originally described by Koslow in 1910. A quantity of the sputum is shaken up with a strongly alkaline sodium hypochlorite solution (15 per cent. liquor sodæ hydrasel, such as a measure cylinder, the proportions depending on tus plus liquor sodæ chlorinatus āā) in a glass-stoppered vessel, such as a measure cylinder, the proportions depending on the consistence of the sputum; if the latter is very viscid or dense an equal proportion may be required; if thin, then half the amount may suffice. The mixture is occasionally shaken during five minutes; it is then diluted with a volume of distilled water approximately ten times as great as that of the sodium hypochlorite solution used, and again shaken for a few minutes. Finally there is added a mixture of equal parts of ether (methylated ether will do) and acetone equal in volume to that of the water. It is shaken once more for a few seconds and the whole allowed to stand. In a few minutes the contents of the bottle will be found to separate into three layers. The middle layer, appearing as a more or less dense white ring, will contain nearly all the tubercle bacilli that may be present in the sputum, and can be drawn off with ease by means of a pipette fitted with a teat. The density of this middle layer can be increased after it has been pipetted off, if desired, with the help of a centrifuge (an ordinary hand centrifuge will answer the purpose), but it is not necessary. A film is made, dried and fixed in the usual way by passing it through a flame. Before staining the film Eurich immerses it for a few seconds in 5 per cent. sulphuric acid to neutralize any adhering alkali, and it is washed to remove the acid. If the examiner is interrupted, or otherwise pressed for time, the whole mixture may be allowed to stand till the next day or even longer; the acid-fast property of the bacilli is not affected by the delay. The mixture should be diluted with distilled, not with tap water, as the latter may contain acid-fast bacilli.

7. **Circulation Factors Admitting of Easy Measurement.**—The factors in circulation admitting of easy measurement and which are discussed by Haig are the capillary reflux, the blood-pressure, the ratio of capillary reflux to blood-pressure, the cardiac diameter and the liver dulness.

8. **Valves in Veins of Portal System.**—To sum up, Wilkie emphasizes that we have now definite proof that there are valves in the veins of the portal system; that these valves are widely distributed throughout the tributaries of the portal vein, and that while well developed in the infant and young child they tend to become incompetent in the adult. These valves, which are well developed in most of the lower mammals, appear in man to be undergoing a retrograde metamorphosis.

9. **Action of Ilio-Psoas Muscle.**—Evidence is given by MacLennan to prove that the ilio-psoas muscle is not an adductor, but an abductor, not an inward but an outward rotator of the femur.

15. **Nutritive Effects of Beef Extract.**—The authors' experiments tended to prove that the addition to the diet of the beef extracts used (commercial and self-made) led to an increase of body weight both in the case of animals and of man. Accompanying this increase there was a retention of a considerable proportion of the nitrogen given in the extracts. The extracts also caused a reduction in the output of nitrogen by the feces, this no doubt being due to a better digestion and absorption of food of the ordinary diet. The extracts may therefore be accredited with both a direct and an indirect nutritive value. During the feeding with the extracts there was also a retention of water in the body.

23. **Merits of Low Protein Diet.**—Reliance on protein as a source of energy is held by Chittenden to be theoretically and practically undesirable. It is true that the protein molecule contains, in addition to its 16 per cent. of nitrogen, 52 per cent. of carbon. After the molecule is denitrogenated, the residue, the non-nitrogenous moiety of Foster, can serve the same purpose in the body as fat and carbohydrate, but to obtain energy from this source means letting loose in the system a mass of nitrogenous waste products which the body cannot use and which must be eliminated at some expense, even if no other undesirable results follow. Why not, asks Chittenden, rely on fat and carbohydrate for the energy needed by the body, and use protein food solely for the purposes which it, and it alone, is especially fitted to fulfil? Such a course has the merit of being more closely in accord with physiologic laws, while at the same time there is a suggestion of conservation of health and strength, combined with a certain amount of physiologic economy, that may ultimately result in increased efficiency.

Australian Medical Journal, Melbourne

August 5, I, No. 3, pp. 25-36

28 Surgery of Chronic Gastric Ulcer. B. T. Zwar.
29 Hypertrophic Stenosis of Pylorus, with Spasm. T. E. Green.
30 Proteolytic Power of Proprietary Preparations. S. W. Patterson.
31 *Hydatid as Cause of Appendicitis. A. S. Trinca.

August 12, I, No. 4, pp. 37-46

32 Splenic Anemia and Splenectomy. R. A. Stirling and J. Grantley-Shelton.
33 Deviations of Nasal Septum. D. McM. Officer.
34 Variation in Stethoscopic Cardiac Physical Signs. W. H. Summons.
35 Pneumococcic Meningitis. A. V. M. Anderson.

August 19, I, No. 5, pp. 47-56

36 Lacerations at Vaginal Outlet. G. Horne.
37 [illegible] ca.
38 [illegible] Investigation of Infantile Diar-
39 Case of Actinomycosis. C. E. Dennis.

August 26, I, No. 6, pp. 57-66

40 Acquired Talipes Valgus. W. K. Hughes.
41 Adrenalin. J. L. Jona.
42 *Case of Hydatid of Colon. A. Honman.
43 Intrauterine Crying of Child. R. H. Fetherston.

31. **Appendicitis Due to Hydatid.**—In this case the appendix was found lying behind the cecum with an adherent mass near its tip. The mass proved to be a hydatid cyst. Spread over the cyst and along the anterior surface of the appendix were tortuous dilated veins. The cyst had developed between the layers of the meso-appendix, from which the adventitious coat had arisen. Traction of the cyst at the appendix had produced a kink at the point of attachment, and this kink had apparently caused the symptoms, for a microscopic section of this part of the appendical wall showed constriction of the lumen and engorged, dilated vessels, but no other signs of inflammation. Examination of some of the clear cyst fluid revealed typical hydatid scolices. Projecting through the serous coat of the appendix nearer the proximal end were two small white rounded bodies, probably hydatid cysts in an early stage of development.

42. **Hydatid of Colon.**—Honman's patient had had during eight months four attacks of severe abdominal pains, accompanied with vomiting. In December he had a severe attack and had vomited a quantity of blood and large quantities of bile, and had passed a quantity of blood by the bowels; this was followed by obstruction of the bowels, which was finally relieved by high enemas, etc. His condition was diagnosed as ulcer of the stomach and he was sent into a private hospital and treated by artificial feeding, etc., and he left there the following January considerably improved. On returning to work, which entailed a lot of riding, his pains returned, and on consulting Honman he stated that while he was in no pain he suffered from indigestion, had had blood in his motions to a more or less degree for the previous three weeks, and had tarry motions and complained of pain in the right groin and on urinating. There was marked rigidity of the muscles over the right side of the abdomen, and a mass could be felt rather higher than the normal appendicular region, and there was some tenderness on deep pressure there. The urine was free from albumin, pus or blood. Honman operated and found a hard mass covered with adhesions, which, on separating, showed a growth attached to the ascending colon, and as it presented every appearance of being a sarcoma, and was protruding into the lumen of the intestine, Honman resected the colon, joining by end-to-end anastomosis. The mass had a very thick wall and was closely packed with hydatid cysts; the larger pole of the growth had only mucous membrane covering it, and it had evidently started in the muscular walls.

Malaya Medical Journal, Singapore

July, IX, Part 3, pp. 5-97

44 Production and Treatment of Milk in Europe. S. A. R. Glennie.
45 System of Medical Education. R. D. Keith.
46 Working of Births and Deaths Registration Ordinance. W. R. C. Middleton.
47 Night-Soil Conservancy in Cantonments. P. Hehir.
48 Foreign Bodies in Knee-Joint. K. C. Sinha.

Journal of Tropical Medicine and Hygiene, London

September 1, XIV, No. 17, pp. 254-268

49 Etiology and Prophylaxis of Malta Fever in South Africa. A. Garrow.
50 *Transmission of Leprosy. E. C. Long.

50. Abstracted in The Journal, Sept. 30, 1911, p. 1164.

Annales de l'Institut Pasteur, Paris

July, XXV, No. 7, pp. 497-560

51 Classification of Trypanosomes. (Identification et essai de classification des trypanosomes des mammifères.) A. Laveran.
52 Pulmonary Tuberculosis in Cattle Not of Digestive Origin. (La tuberculose thoracique du bœuf n'est pas d'origine digestive.) P. Chausse.
53 Salvarsan in Relapsing Fever. (Essais de traitement de la fièvre recurrente d'Afrique par l'arsenobenzol "606." Réaction méningée de la tickfever chez l'homme.) J. Rodhain, C. Pons and F. van den Branden.
54 Research on Japanese Snake Poison. (Expériences sur le venin du Trimeresurus riukiuanus. M. Nicolle and A. Berthelot.

August, No. 8, pp. 561-624

55 Action of Horse and Beef Serum on Isolated Guinea-Pig Heart. (Etude de l'action du sérum de bœuf et du sérum de cheval sur le cœur isolé du cobaye.) L. Launoy.
56 Anaphylaxis Induced by Ingestion of Crepitin. (De l'anaphylaxie alimentaire par la crépitine.) C. Richet.
57 Monkey Plasmodium. (Plasmodium des macaques de Tonkin.) C. Mathis and M. Leger.
58 Peculiarities of Growth of Bacterium zopfii Kurth. (Note sur les tropismes du Bacterium zopfii "Kurth.") H. Kufferath.
59 Agglutination of Non-Motile Microbes by Normal Serums. (Agglutination des microbes immobiles par les sérums normaux.) L. Nègre and M. Raynaud.

Annales des Maladies des Org. Génito-Urinaires, Paris

August 15, XXIX, No. 16, pp. 1441-1536

60 Tuberculosis of the Kidneys of Blood-Borne Origin. (Quelques considérations sur la pathogénie de la tuberculose rénale d'après deux autopsies.) P. Heresco and M. Cealic.
61 *Perineal Prostatomy for Gonorrheal Abscess Cures the Gonorrhea. (Sur les résultats éloignés de la prostatomie périnéale dans les abcès blenorrhagiques de la prostate, avec des considérations particulières sur la guérison de la blenorrhagie.) M. Cealic and L. Strominger.

61. **Perineal Prostatomy for Gonorrheal Abscess Cures the Gonorrhea.**—Cealic and Strominger report twenty-two case histories, all showing that perineal evacuation of a gonorrheal abscess in the prostate is a simple and excellent measure, as it not only cures the local lesion in the prostate but it facilitates the cure of the gonorrhea as a whole, even in cases in which it had long resisted the ordinary measures. They advise prostatomy without delay as soon as the diagnosis is made. In one case typical of many in their experience the abscess perforated into the rectum and the patient felt relieved and treatment was restricted to massage and lavage of the urethra. The prostate persisted large and tender and traces of the urethritis were evident for a year, when the prostate swelled again with perceptible fluctuation and fever. Prostatomy was done at once and the gonorrhea was eradicated.

Presse Médicale, Paris

September 13, XIX, No. 74, pp. 729-736

62 Choleriform Syndromes. E. Joltrain and M. Maillet.
63 *Diagnosis of Ulcer in Duodenum-Pylorus Region. (Diagnostic de l'ulcère de la région duodéno-pylorique.) L. Meunier.
64 Synthetic Purgatives. (Les purgatifs synthétiques.) A Martinet.
65 Specific Precipitin Reaction in Meningococcus Cerebrospinal Meningitis. Collignon and Pilod.

63. **Diagnosis of Duodenal Ulcer.**—Meunier has found it possible to diagnose a duodenal ulcer by rinsing out the stomach with a 1 per cent. solution of glacial acetic acid. Under the

influence of this acid fluid the pylorus shuts up and thus prevents the fluid from passing along into the duodenum. At the same time, if the ulceration is in the stomach, the acid solution dissolves the crystals of hematin found on the surface of a relatively recent raw surface. The positive reaction indicating the presence of blood in the rinsing fluid thus indicates ulceration in the stomach. The absence of traces of blood in the rinsing water, in connection with the symptoms suggesting duodenal ulcer, such as paroxysmal tardy pain in the stomach region—all this points to a duodenal ulcer. In every case in his experience in which the acetic acid reaction in the stomach rinsing water was positive, the following operation confirmed the presence of an ulcer in the body of the stomach. In two patients the reaction was negative. One was operated on by Moynihan at Leeds and the other by Pauchet at Amiens, and in each case the diagnosis of an exclusively duodenal ulcer was confirmed. The acetic acid test of the rinsing water of the stomach should be supplemented by examination of the stools for traces of blood. If blood is found in the stools and none in the rinsing water of the stomach, this locates the lesion below the stomach and it is almost invariably to be found just below the pylorus.

Semaine Médicale, Paris

September 13, XXXI, No. 37, pp. 433-444

66 *Dangers of Alkaline Intravenous Injections; Toxic Effects of Sodium. (Les dangers des injections intraveineuses alcalines; effets toxiques du sodium.) L. Blum.

66. **Dangers of Intravenous Alkaline Injections.**—Blum is convinced that many symptoms and disturbances observed after injection even of saline solution are due to the sodium chlorid in itself, recent research on "salt fever" in infants having revealed unsuspected pathogenic properties in it. It is certainly safer to use a physiologically balanced solution, adding a little alkali to the salt solution, as the physiologists have long been doing in their research. With alkaline solutions the problem is even more difficult, Blum's clinical experience with them having demonstrated the possible mishaps liable from their use. In two patients drifting into diabetic coma, the injection of a 2.5 or 5 per cent. solution of sodium carbonate was followed in about four hours by convulsions and death. The injection was difficult on account of spasmodic contraction of the vessels preventing the infusion. When it finally succeeded, the walls of the vessels were evidently injured by the alkaline solution as the blood infiltrated into the surrounding tissues the entire length of the vein. The symptoms of intoxication in both these cases, as also in two other patients who had been given a preceding injection of sodium glutarate, testified to the toxic action of the sodium. Many clinicians, including Frerichs and Naunyn, have never witnessed convulsions in the course of diabetic coma, and Blum has been able to find records of only six cases of the kind in the literature. His experience with only these four cases, in his twenty-five of diabetic coma, in which fatal convulsions developed after the alkaline injection, when he never witnessed anything of the kind before and none since he has abandoned the use of these alkaline solutions, points to the injections as the causal factor. Two of the patients thus succumbing were girls of 15 and 16, the others women of 23 and 71, all with diabetic somnolency but not amounting to coma in every case. Blum refers parenthetically to Labbé's recent report of an old diabetic, a woman of 65, of a diabetic family, who seemed to be lapsing into diabetic coma. He made an intravenous injection of 500 gm. of a 3 per cent. solution of sodium bicarbonate daily for five days, while the patient took about 70 gm. of sodium bicarbonate by the mouth: she gradually recovered and is now in good condition. Labbé added that he knows of only seven other cases on record in which diabetic coma failed to terminate fatally. He has also reported equally favorable results in a second, less severe case, after two intravenous injections of 15 gm. of sodium bicarbonate in a 3 per cent. solution, the patient a woman of 52, diabetic for twelve years. Blum further refers to the fact that Stadelmann has emphasized the importance of using the sesquicarbonate of sodium instead of the carbonate or bicarbonate as better tolerated than the carbonate while containing more sodium than the bicarbonate. It is produced merely by heating the solution of sodium bicarbonate, thus permitting some of the carbonic acid to escape.

Beiträge zur Klinik der Tuberkulose, Würzburg

XX, No. 3, pp. 343-433. Last Indexed September 30, p. 1168

67 *Immunization Against Tuberculosis with Partial Antigens. (Das Problem de id die Ableitung einer neuen .) H. Much.
68 *Importance of t he Tubercle Bacilli for Tuberculosis and Leprosy. (Die Tuberkelbazillen im Systeme der säurefesten Bakterien und die Bedeutung der einzelnen Bazillenbestandteile für Tuberkulose und Lepra.) H. Much and E. Leschke.
69 *The Separation of Tubercle Bacilli Into Their Elements. (Die Auflösung von Tuberkelbazillen nach Deycke und Much.) E. Leschke.
70 *Action of Dissolved Tubercle B immunisatorische Verhalten d nebst Tuberkulinstudien und T H. Much and E. Leschke.

67 to 70. **Importance of Various Elements of Tubercle Bacilli for the Clinical Reaction.**—Much and Leschke believe that they have established that the fat, the albumin and the aromatic substance in the tubercle bacilli each play a part in the reaction to tuberculin, and that it is possible to isolate these various elements and induce a reaction to each separately. Each of these elements is able to induce a hypersusceptibility and induce the production of antibodies for each of these elements separately. The reaction in different persons thus may be of an entirely different nature, either an albumin-antialbumin reaction, a fat-antifat reaction or a toxin-antitoxin reaction, or all of these reactions may occur at once. By the complement-binding tests it may be possible to determine which of the above antibodies is lacking in the individual case, and by vaccinating with the antigen in question induce durable immunity or a complete cure. The organic acids seem to be most effectual in separating the tubercle bacilli into these elements, which is a different matter, they explain, from simple dissolving of the bacilli. They prefer for it the term *Aufschliessung*, which means an unlocking, and state that this conception of partial antibody production and partial antigens opens a new horizon for vaccine therapy with partial antigens.

Beiträge zur klinischen Chirurgie, Tübingen

LXXIII, No. 3, pp. 569-814

71 General Anesthesia by Injection of Preparation of Opium and Scopolamin. (Injektionsnarkose mit Pantopon-Skopolamin.) M. von Brunn.
72 Roentograms of Some Rare Traumas of the Wrist. (Ueber seltene Handwurzelverletzungen im Röntgenbilde.) A. Nast-Kolb.
73 Deforming Ostitis. (Zur Kenntnis der Ostitis fibrosa.) K. Hartmann.
74 Contusion of the Duodenum. (Zur Kenntnis der Verletzungen des Duodenums durch stumpfe Gewalt.) E. Lonhard.
75 actures. (Knochenbrüche und deren d der Jahre 1908-10 im Katharinenhos- E. Lonhard.
76 *actures and Roentographic Findings. (Zur Diagnostik und Statistik der Frakturen vor und nach der Verwertung der Röntgendiagnostik.) H. Plagemann.
77 Torsion Tension in the Upper Arm. (Die Torsionsspannung im Oberarm.) H. Zuppinger.
78 Arteriovenous Femoral Aneurysm; One Case. (Zur Kenntnis des arteriovenösen Aneurysmas der Arteria und Vena profunda femoris.) B. Rubesch.
79 The Non-Striated Musculature of the Orbit and Its Importance for the Eye Symptoms in Exophthalmic Goiter. (Die glatte Muskulatur der Orbita und ihre Bedeutung für die Augensymptome bei Morbus Basedowii.) H. Freund.
80 Bone Formation in Laparotomy Scar. (Ueber Knochenbildung in Laparotomienarben.) W. Capelle.
81* Operative Treatment of Metastatic Carcinoma of the Spine. (Chirurgische Eingriffe bei metastatischen Karzinom der Wirbelsäule.) A. Tietze.

76. **Fractures and Roentoscopy.**—Plagemann tabulates the details of 3,664 fractures treated at the Rostock surgical clinic, 1891-1910, and compares the ultimate outcome with the roentographic findings in a large number. He remarks in conclusion that the Roentgen rays have simplified the diagnosis of fractures and have been of great aid as a guide to treatment, but still they are of little use and even misleading with certain fractures, such as fracture of the base of the brain. In a number of other fractures, also, the injury of neighboring organs has more to do with the ultimate outcome than the fracture of the bone itself. The chief advantage of the Roentgen rays is that they permit constant oversight of the objective condition later.

81. **Operative Treatment of Metastatic Cancer of the Spine.**—Although a radical cure is not possible, yet immense relief can be obtained by a palliative operation in these cases, and Tietze has applied it in five of his six cases of the kind. The patients were women from 32 to 54 years old and the primary cancer had been in the breast which had been amputated from a few months to three years before. The findings are illustrated in the operative cases. The benefit from the operation was great at first but did not last longer than a few weeks, except in one case. This patient was delivered from her agonizing pains and lived for more than a year in a satisfactory condition, dying then of pneumonia. In considering a palliative operation of the kind, the comparative malignancy of the primary cancer is an important factor to be borne in mind in estimating the possible benefit from the operation.

Beiträge zur klinischen Chirurgie, Tubingen

LXXIV, pp. 1-754. L. Rehn Festschrift

82 *Resection of Left Lobe of Liver for Cancer. (Totalresektion des linken Leberlappens bei primärem Leberkrebs.) H. Klose.
83 Cancer of the Kidney in Young Children; Two Cases. (Ueber das Nephroma embryonale malignum.) H. Klose.
84 Plasmocytoma of the Pleura. H. Klose.
85 Gangliocellular Neuroma. (Ueber das Neuroma gangliocellulare benignum et malignum.) G. Brossok.
86 Tuberculosis of the Parotid Gland. (Parotistuberkulose.) O. Homuth.
87 Nature and Early Stages of Deforming Ostitis. (Zur Kenntnis des Frühstadiums der sogenannten Ostitis fibrosa.) C. Haeberlin.
88 *Achievements and Problems of Operative Neurology. (Die heutigen Leistungen und die nächsten Aufgaben der operativen Neurologie.) S. Auerbach.
89 End-Results of Operative Treatment of Appendicitic Peritonitis. (Die gegenwärtigen Erfolge bei der chirurgischen Behandlung der freien eitrigen Wurmfortsatzperitonitis.) K. Propping.
90 Serum-Proof Typhoid Bacilli in an Ovarian Cyst. ("Serumfeste" Typhusbacillen im Eiter einer Ovarialcyste.) K. Laubenheimer.
91 Tuberculosis Toxin and Anaphylaxis. (Tuberkulosegift und Anaphylaxie.) G. Landmann.
92 *The Value of the Differential Leukocyte Count in Surgical Diagnosis and Prognosis. (Wert der Sondern'schen Resistenzlinie für die Diagnose und Prognose in der Chirurgie.) E. Lampé, Jr.
93 Resection of Upper Jaw for Cancer. (Ueber totale und ausgedehnte Oberkieferresektionen wegen maligner Tumoren.) H. Bade.
94 Treatment of Trauma of Pleura and Lung. (Zur Behandlung der Pleura und Lungenverletzungen.) J. Amberger.
95 Hernia and Eventration of the Diaphragm. (Ueber Zwerchfellinsufficienz.) O. Franck.
96 *Extradural Spinal Cord Tumors. (Zur Klinik der extraduralen Rückenmarksgeschwülste.) E. Siegel.
97 Perforation of Gastric Ulcer in Soldier During Army Maneuvers. (Durchbruch eines Magengeschwürs im Manöver.) L. Druner.
98 *Tumors in Large Intestine. (Dickdarmgeschwülste.) E. Schmidt.
99 Incarceration of Hernia in Artificial Anus. (Incarceration einer Dünndarmschlinge in der prolabierten Darmwand eines Coecalafters.) F. Bode.
100 Prolapse of Invaginated Intestine Through Postoperative Fistula. (Prolaps des invaginierten Colon ascendens und Coecum durch eine nach Blinddarmoperation zurückgebliebene Kotfistel.) F. Becker.
101 Opening the Common Bile Duct Through the Duodenum. (Transduodenale Choledochotomie.) B. Bosse and S. Brotzen.
102 Splenectomy for Traumatic Rupture of the Spleen and Blood Changes Thereafter. (Zur Splenektomie bei der traumatischen Milzruptur und zur Frage der dadurch bedingten Blutveränderungen.) F. Schulze.
103 Cysts and Pseudocysts in the Pancreas. (Pankreascysten und -pseudocysten.) E. Wolff.
104 Elimination of Bacteria in Normal Secretions of Glands. (Zur Frage der Bakterienausscheidung in den normalen Drüsensekreten.) W. Noetzel.
105 Circular Suture and Transplantation of Vessels. (Ueber die cirkuläre Gefässnaht und über die Transplantation der Gefässe.) J. M. Glasstein.
106 Deformity of the Wrist in Relation to Rachitis. (Die Madelung'sche Deformität in ihrer Beziehung zur Rachitis.) O. Homuth.
107 Removal of the Shoulder from the Rear. (Die Freilegung des Schultergelenks und der Achselhöhle von der Rückenseite her und die totale Exstirpation des Schultergürtels und Armes.) L. Drüner.
108 *Surgical Treatment of Sagging Gastro-Intestinal Tract; Movable Cecum. (Das mobile Coecum mit seinen Folgezuständen und die chirurgische Behandlung ptotischer Erkrankungen des Magendarmkanales.) H. Klose.
109 *Cancer Following Trauma. (Zur Frage der "posttraumatischen Krebse.") S. Löwenstein.
110 Rosenbach Tuberculin in Treatment of Local Tuberculosis. (Zur Behandlung der örtlichen Tuberkulose mit Tuberkulin Rosenbach.) L. Seyberth.
111 Prophylaxis and Treatment of Inguinal Hernia. (Eine einfache Methode zur Beseitigung der weichen Leiste.) L. Seyberth

82. **Resection of Liver for Cancer.**—Klose reports what he thinks is the first successful resection of the entire left lobe of the liver for cancer. His patient was a man of 45. He died a few days afterward from fulminating endocarditis affecting a heart already in chronic fatty degeneration. Necropsy showed that the operation on the liver had been a complete success and that there was no trace of metastasis. The first symptoms of the cancer had been noticed six months before in the form of occasional stomach cramps and oppression, but no vomiting or jaundice. The stomach region began to protrude after four or five months, the man lost 42 pounds in weight. He was a manufacturer, well nourished, and the solid tumor palpated in the epigastrium could be pushed about within a range of 15 cm.; it was apparently independent of the stomach.

88. **Operative Neurology.**—Auerbach reviews the history, achievements and outlook for operative treatment of exophthalmic goiter, hysteria, epilepsy and brain, spinal cord and peripheral nerve affections. Rehn, in whose honor the bulky volume is issued, was the first in Germany to attempt operative treatment in exophthalmic goiter. The experiences to date indicate that the slightest tendency to myxedema formally contra-indicates an operation on the thyroid, and myodegeneration of the heart is also a dangerous element, although a complete cure or great improvement has been realized by some surgeons even in these very severe cases. Auerbach has himself had an experience of this kind. If the patients are wage-earners, he advises not delaying more than two or three months for a trial of vigorous internal measures before applying operative treatment, but, when possible, he prefers a six-months' course of medical treatment before resorting to strumectomy. He protests against the general hospital for such patients on account of the inevitable nervous shocks encountered there: such patients do better under oversight in the home or, better still, in convalescent homes, which are the crying need of the modern hospital system, especially for care of the severer nervous affections.

92. **The Blood Count for Diagnosis and Prognosis in Surgery.** Lampé has been applying F. E. Sondern's method for the differential leukocyte count and has become convinced of its value for both diagnosis and prognosis. The twenty cases he reports confirm Sondern's statements in every particular, with one possible but not certain exception. He also reports experimental research which gave still further confirmation of Sondern's views and of the value of his "resistance curve." "It permits," Lampé says, "an amazing insight into what is going on in the organism, reflecting as in a mirror the fight the body is putting up against the invading infection. Every repulse and every victory can be overlooked, and in the puzzling cases the method is of extreme importance; of course, it is not needed in the cases in which conditions are plain before the eyes without this aid."

86. **Extradural Spinal Cord Tumors.**—Siegel recently operated in two cases of this kind with complete success, although the tumor was secondary to cancer elsewhere, which has already proved fatal in one case, about a year after the operation. The patient was a man of 30 and the tumor removed was of the adenomacarcinoma type. The other patient was a woman of 33 with a small goiter for the last six years which had never caused any disturbances. The tumor removed from the spinal cord proved to be a metastasis of the struma. Siegel reviews the cases on record of metastasis from an apparently benign struma. The metastasis was generally in a bone and nothing malignant could be found in the thyroid after death in the cases in which necropsy was possible, except in Huguenin's case; in the others the findings were merely those of a colloidal goiter or normal thyroid. Riedel has had a case in which a metastasis of this kind recurred in the jaw ten years after removal of the first metastasic tumor, and yet the thyroid has been apparently normal all the time.

98. **Experiences with Tumors in the Large Intestine.**—Schmidt concludes from his sixty-three operative cases that resection and suture at one sitting give the best end-results, especially or care of the severer nervous affections.

108. **Movable Cecum.**—Klose reviews the history of operative treatment of conditions resulting from sagging of any portion of the gastro-intestinal canal, and discusses the subject from the standpoint of embryology, anatomy, physiology and symptomatology, especially the clinical picture of movable cecum. He states that 134 patients in this latter category have been given operative treatment at Rehn's clinic, including twelve children, and 75 per cent. were under 25 years old. In 70 per cent. the trouble was evidently of congenital origin. The main symptom was intermittent afebrile or subfebrile colic pains, like neuralgia, generally localized in the right side. There was also a localized elastic resistance in the ileocecal region, an air-cushion sensation on palpation, with ileocecal gurgling or splashing, increased peristalsis during the attacks, constipation followed with diarrhea, admixture of blood and mucus with the stools and carbohydrate fermentation. Klose remarks that the question of "pseudo-appendicitis" and "intestinal hysteria" needs to be studied anew by the internists as this assumption of a movable cecum has knocked out most of the foundation for them. Roentoscopy showing retarded peristalsis in the cecum shadow is typical for the movable cecum. Patients with this anomaly are liable to wander from one doctor to another, finding no relief, their disturbances being unjustly classed as neurasthenic, while operative fixation of the movable bowel clears up the diagnosis and generally cures the patient at one stroke. He gives the details of a few typical or unusual cases and of cases showing how the anomaly spreads to involve other parts of the bowel the longer it is left untreated. He concludes with an illustrated description of the preferred operative technic; the curving incision is unusually long and the cecum is sutured throughout its entire length to fasten it in place, taking up in the suture only the serosa of the bowel and fastening the bowel as far back as possible. When the ptosis is universal, he prefers a long incision in the median line, curving around the umbilicus; in one case illustrated the sagging large intestine, spleen and liver all required fixation.

109. **Posttraumatic Cancer.**—Löwenstein published last year a compilation of 271 cases of cancer developing apparently in connection with a trauma and adds nine more cases to the list here. This research indicates that we must now reckon with the effects of a single trauma as liable to induce the production of cancer just as certainly as we accept chronic irritation as a factor. He discusses the connection between the accident and the cancer from the standpoint of industrial insurance, and states further that his experience with disinfectants in treatment of inoperable cancer and in prophylaxis after operations—especially with large doses of quinin, santonin and thymol, given by the mouth or injected into the muscles or parenchyma or directly into the tumor—all the phenomena and results obtained have converted him to the view that a parasitic origin of cancer is not so impossible or improbable after all.

Berliner klinische Wochenschrift

September 18, XLVIII, No. 38, pp. 1705-1740

112 Local Anesthesia in Gynecology and Obstetrics. (Anwendungsbreite der Lokalanästhesie in der Gynäkologie und Geburtshilfe.) P. Kroemer.
113 Fracture of Spinous Processes. (Ueber Dornfortsatzfrakturen.) O. Ehringhaus.
114 Tumor of Spermatic Cord; Two Cases. (Samenstrangtumoren.) H. Schlueter.
115 Paralysis Agitans, Especially the Behavior of the Larynx. (Verhalten des Kehlkopfes bei der Paralysis agitans nebst einigen allgemeineren Bemerkungen über die Krankheit.) W. Graeffner.
116 *Diagnosis of Arteriosclerosis of the Legs. (Zur Diagnose der arteriosklerotischen Erkrankungen der unteren *Extremität.*) J. Rosenbusch.
117 Cultivatibility of Ameba on Hay. (Kultivierbarkeit der Amöben auf Heu.) G. Franchini *and Raspaolo.*
118 *The Meiostagmin Reaction in Cancer. (Die Meiostagminre- ... hwülsten.) F. Leidi.
119 ... s to Cancer. (Die relative Krebs- ... ken.) M. Soegaard.
120 ... n Infants Nursing Mothers Under (Ist das Auftreten von spezifisch ... beim Säugling nach Stillen mit Salvarsanmilch als Endotoxinwirkung aufzufassen?) G. Stümpke.
121 Disturbances in Tear Production. (Ueber Tränenstörungen und ihre Behandlung.) H. Bergemann.
122 Diagnosis of Masked Diphtheria in Children. (Zur Diagnose der larvierten Diphtherie im jüngeren Kindesalter.) E. Blochmann.
123 How to Avoid Operative Pneumothorax. (Ueber die Methoden zur Beseitigung der Pneumothoraxgefahr.) F. Lotsch.
124 Apparatus for Artificial Respiration; the "Pulmotor." (Maschinelle künstliche Atmung.) O. Roth.

116. **Diagnosis of Arteriosclerosis of the Legs.**—The importance of detecting and locating arteriosclerotic changes in the vessels of the legs in diagnosing intermittent claudication and similar affections is emphasized by Rosenbusch. He applies the Strauss turgosphygmograph at different points along the leg. This records the volume of the pulse-wave and thus shows at a glance the vessels or the segments of the vessels which are functioning defectively. It is able to reveal findings in this line at points inaccessible to palpation, and at all points is far more reliable than the latter, pointing out the portions of the vessel which can be relied on to do normal work.

118. **The Meiostagmin Reaction in Cancer.**—Leidi reports positive findings with the Ascoli technic in 80 per cent. of twenty cancer patients tested and in less than 8 per cent. of twenty-four patients with other diseases.

Correspondenz-Blatt für Schweizer Aerzte, Basel

September 10, XLI, No. 26, pp. 897-928

125 Definition of Hysteria. A. Maeder.

Deutsche medizinische Wochenschrift, Berlin

September 14, XXXVII, No. 37, pp. 1681-1728

126 *Surgery of Lungs and Pleura. (Beiträge zur Pleura-Lungenchirurgie.) M. Martens.
127 Treatment of Diphtheria. (Zur Diphtheriebehandlung.) P. Hoesch.
128 *Treatment of Old Congenital Dislocation of the Hip-Joint. (Zur Behandlung der veralteten kongenitalen Hüftgelenksluxation.) E. Patschke.
129 Spontaneous Rupture of Uterus During Pregnancy. (Fall von spontaner Uterusruptur in der Schwangerschaft.) F. Sieber.
130 Spontaneous Rupture of Uterus After Classic Cesarean Section. (Fall von Uterusruptur nach vorangegangenem klassischen ... ldek.
131 ... gans Producing Antibodies by Infec- ... zifische Stimulation der Antikörper ... fektionskrankheiten.) H. Lippmann.
132 ... on Tuberkulin. (Versuche über die Einwirkung der Leberautolyse auf Tuberkulin.) F. Ditthorn and W. Schultz.
133 Examination of Sputum. (Zur Untersuchung des Tuberkuloseverdächtigen Sputums.) M. Nemmser and E. Martos-Lissowska.
134 Enrichment of Typhoid Bacilli in Water. (Ueber Anreicherung ... Wasser.) Lemke.
135 * ... and Oppenheim Reflexes and Calf ... Modifikationen des Babinski- und Oppenheim-Reflexes und ein neues Fussphänomen—Wadenphänomen.) E. Trömner.
136 *Severe Toxic Symptoms After Intravenous Injection of Salvarsan and Means to Avoid Such. (Ein Fall schwerer Intoxikation im Anschluss an eine intravenöse Salvarsaninjektion, nebst weiteren Bemerkungen über die Entgiftung dieser letzteren.) T. v. Marschalko.
137 Salvarsan in Kala-Azar. (Therapeutischer Wert des Salvarsans bei Kala-Azar.) A. Christomanos.
138 River Steamboat Trips from Therapeutic Standpoint. (Die Binnen-Dampfschiffahrt als Heilmittel.) Mulert.
139 Hygiene in China. (Einige hygienische Prinzipien im Volksleben der Chinesen.) R. Baron Budberg.

126. **Pleura and Lung Surgery.**—Martens reports a number of successful operations on the lungs or pleura such as were undreamed of before the introduction of the differential pressure procedures. Among them is a case of chondrosarcoma successfully removed from the anterior chest wall and pleura close under the clavicle. The defect left after excision of the focus was closed with a large flap drawn around from the axilla and mamma, with which the lung was directly covered after the lung had been sutured to the edge of the defect all around. In another case he yielded to the appeal of a patient and removed a recurrence of a mammary cancer in the chest wall after the breast had been removed for recurrence of a primary tumor in the mamma, the tumor alone having been merely excised six months before. As a rule he refrains from such operations for recurring cancer in the chest and in this case the patient succumbed not long after to recurrence elsewhere. But the operation proved comparatively simple and easy, a large portion of the sternum and of three ribs being cut out with shears, leaving the lungs, pericardium and pleura exposed. He sutured the lung to the edges of the defect and twisted the remaining mamma around to close it. Healing was complete so that the patient was dismissed in twelve

days. In another case he resected part of two ribs to locate a bronchiectatic cavity in the lungs. When found he did not attempt to evacuate it, but sutured the pleura again and then evacuated the cavity by puncture with the actual cautery. He had a similar success in another case in which he opened into the cavity with the actual cautery, finding it at a depth of 5 cm. from the surface and 13 cm. in extent. He discusses the various technics for differential pressure, his work having been done mostly with the Brat-Schmieden positive pressure mask method.

128. **Old Congenital Dislocation of the Hip.**—Patschke reports the successful correction of congenital dislocation of both hip joints in a woman of 26. He scooped out a new cavity for the head but broke off the head in fitting it into the new cavity. The neck stump answered every purpose, however, and the functional use of the limb was restored. A similar operation was then done on the other hip joint six months after the first and without a fracture this time, so the patient was restored to practically normal gait and endurance. Her deformity had not caused her much disturbance till her eighteenth year, so she had never consulted a physician on account of it, but after that year she became unable to walk and no benefit was derived from long systematic courses of medical and orthopedic measures.

135. **Modifications of the Reflexes and the "Calf Reflex."**—Trömner has been examining the reflexes in twenty cases of recent nervous disease and in forty cases of long standing, and tabulates the compared findings. He remarks that it is generally possible to elicit the Babinski sign by the usual technic, but in dubious cases he applies a stronger method, pressing with a rapid hard pressure in the middle of the arch of the foot, below the ball of the great toe. This not only entails extension of the great toe but possibly also flexion of the foot, knee or thigh, or all together, in the pathologic cases. Sometimes the reflex followed when the foot was thus grasped firmly; in others it occurred only when the pressure was abruptly released. This Babinski-pressure phenomenon is more constant and more sensitive than the ordinary Babinski or Oppenheim signs and it is pathognomonic, he asserts, for foci above the lumbar region and it is less liable to be misinterpreted while it needs no instrument except a firm hand grasp. He has also found that the easiest way to induce the Oppenheim phenomenon is by applying strong brief pressure to the inner margin of the tibia, at a point between the middle and lower thirds. He presses forcibly with his thumb, the other fingers grasping the outer edge of the tibia, and the great toe is extended while the knee and hip joints flex—thus the same reaction as with the Babinski-pressure sign. The pressure must be made strong enough to hurt a little in the dubious cases. He also calls attention to what he entitles the "calf reflex," *Wadenphänomen.* It is a dorsal flexion of the foot when the hollow of the half-flexed knee is grasped from the inside and strong rapid pressure applied stroking downward as if to massage centrifugally the gastrocnemius muscle. The leg is held half bent and rotated outward, supported by the other hand. Dorsal flexion of the foot is the pathognomonic reflex; sometimes it may include flexion of the knee and hip-joints. In his study of the various reflex phenomena in forty cases of organic nervous affections of long standing and in twenty recent cases the calf sign was found in seventeen of the recent and in thirty-eight of the old cases, and the modified other phenomena in nearly as many, while with the usual technics the Babinski was elicited only in fifteen of the recent and only in thirty-three of the old cases and the Oppenheim only in twelve and eighteen, respectively. He was careful to make the tests allowing ample pauses between to exclude the influence of fatigue. The Bechterew-Mendel phenomenon can be elicited by merely tapping on the ball of the great toe or sole of the foot. This reflex occurred in five of the recent cases and in twenty-nine of the old, and the Rossolino reflex in the same number, coincident in all but one case. Trömner does not claim that the modifications he describes are new, but only emphasizes that the technic is simpler and more sensitive than those hitherto in vogue.

136. **Toxic Symptoms After Intravenous Injection of Salvarsan.**—The dose injected had been only 0.28 gm. but the signs of intoxication were extremely severe, including total anuria for over twenty-four hours. Study of them has, however, convinced Marschalko that the drug itself is not responsible for them but rather the vehicle in which it is administered as he explains in detail. He ascribes the disturbances to the germ content of the salt solution or distilled water. During the hot weather especially, a prolific microbian vegetation flourished in the water, and although it was killed by boiling the water, yet the germs persisted as albumin-containing bodies which are liable to induce serious intoxication if introduced directly into the circulation. The only means to avoid this is to redistil afresh the water to be used for intravenous injections, and then boil it for half an hour before adding the salt solution or drug. In his case the patient had chills, vertigo and high fever, vomiting and diarrhea, with great depression. The symptoms gradually subsided so that by the fourth day he felt entirely well. In all his other 400 patients there was no reaction or it was moderate, passing over before nightfall.

Medizinische Klinik, Berlin

September 17, VII, No. 38, pp. 1445-1482

140 Problems and Outlook for Internal Medicine. (Ueber einige neuere Gesichtspunkte und Probleme der inneren Medizin.) H. Kämmerer.
141 Gonorrhea. (Unsere Resultate der Gonorrhoebehandlung.) N. Markus.
142 Habitual Vomiting of Infants. (Zur Therapie des habituellen Erbrechens der Säuglinge.) H. Hahn.
143 Influence of Miliary Tuberculosis on Chronic Myeloid Leukemia. J. Löwy.
144 Some Unusual Malformations. (Einige Fälle seltener Missbildungen.) J. Strauss.
145 Nerve Massage for Functional Neuroses. (Ziele und die Bedeutung der Nervenmassage für die Behandlung der funktionellen Neurosen.) A. Wiszwianski.
146 Physiologic Isolation of Parts of Plant Organism as Origin for New Plants and Restitution. R. Muschler.

Mitteilungen aus den Grenzgebieten der Med. und Chir., Jena

XXIII, No. 4, pp. 543-738. Last indexed October 14, p. 1329

147 Case of High Shoulder and Partial Hemiplasia. (Fall von angeborenem Schulterblatthochstand bei Hemiplasie der oberen Körperhälfte.) J. Reich.
148 *Perforated Gastric Ulcer and Behavior of the Neutrophil Leukocytes. (Das perforierte Magengeschwür und das Verhalten der neutrophilen Leukocyten.) M. Mannheimer.
149 *Mechanical Predisposition of the Apices of the Lungs and Development of Apical Tuberculosis. (Entstehung der Spitzentuberkulose.) A. Bacmeister.
150 *Modification of Sense of Taste with Tumors in Posterior Cranial Fossa. (Geschmacksstörungen bei Tumoren der hinteren Schädelgrube.) B. Scholz.
151 Pneumococcus Peritonitis. (Zur Kenntnis des typischen Krankheitsbildes der Pneumokokkenperitonitis.) F. Rohr.

148. **Leukocytosis with Perforated Gastric Ulcer.**—Mannheimer's experience with twelve cases, which he reports in detail, confirms the advantages of watching the curve of the neutrophil leukocytes as an index of the virulence of the inflammation and of the resisting powers of the organism after perforation of a gastric ulcer. The curve is not so regular as with appendicitis, as the hyperleukocytosis does not develop until the peritoneum begins to be inflamed. But this very fact, with others, makes the differential blood-count exceptionally instructive.

149. **Mechanical Predisposition of Lung Apex to Disease.**—Baemeister reports the details of experimental research in which he succeeded in inducing an isolated tuberculous process in the apices in animals. Injection of cinnabar into the circulating blood and inhalation of soot both confirmed the fact of the impeded circulation and respiration in the apex, hampered by certain artificially induced mechanical conditions. He never succeeded in infecting the apex in animals by having them inhale infectious material, but by injecting the material into the blood he regularly and constantly induced a focus in the apex when the mechanical conditions had prepared a predisposition. The research reported confirms the etiologic assumption of the injurious influence of a rigid and confined upper part of the chest, and justifies chondrotomy or any other means aiming to restore normal mechanical conditions and put an end to the stenosis of the upper aperture.

150. **Disturbances in Taste with Brain Tumors.**—Scholz urges closer study of this subject, citing Funkenstein's case in which the combination of paralysis of the nerve of taste with paralysis of the auditory nerve, while the facial, fifth and glossopharyngeal nerves were intact, led unerringly to discovery of a tumor in the posterior cranial fossa. He reports a case from his own experience in which a neurofibroma in the cerebellopontine angle had induced, besides the usual symptoms, paralysis of the taste in the regions innervated by the intermedius. He discusses the anatomy of the nerves involved, with a diagram.

Monatsschrift für Geburtshülfe und Gynäkologie, Leipsic

September, XXXIV, No. 3, pp. 273-396

152 *End-Results and Prospects of Treatment of Inherited Syphilis. K. Baisch.
153 Pituitary Extract and Digitalis in Obstetric Cases. (Pituitrin und Digitalis in der geburtshülflichen Praxis.) J. Hofbauer.
154 Hydatidiform Mole with Twin Pregnancy, One Twin Developed to Term. W. Falgowski.
155 Tuberculosis of Ovarian Tumors. (Zur Tuberkulose der Eierstocksgeschwülste.) T. Rosenthal.
156 *Operative Treatment of Chronic Inflammatory Tumors in Ovary or Tube. (Chronisch entzündliche Adnextumoren.) J. Schiffman and R. Patek.
157 Malignant Melanoma of the Vulva. N. Markus.

152. **Inherited Syphilis.**—Baisch urges that the puerperium is an excellent time for commencing treatment of syphilis and that apparently healthy women bearing syphilitic children will consent to treatment then who heedlessly disregard the necessity for it a few weeks later as they feel well. He has had a case of rupture of the uterus from syphilitic changes, which were also responsible in another case for premature separation of the placenta. He advocates salvarsan treatment of all syphilitic pregnant women and parturients, and reports thirty cases in which this was done during the puerperium. In three cases salvarsan treatment during the pregnancy was well borne and seemed to have a favorable influence on the offspring, all three being apparently free from syphilis, but the blood from the umbilical cord in one gave a weak Wassermann reaction. These three women had aborted at each preceding pregnancy.

156. **Operative Treatment of Chronic Inflammation in Ovaries or Tubes.**—Operative treatment was applied in only ninety-three of the 2,633 cases in this category at Wieden, 1902 to 1910. Three-fourths of these patients have been reexamined recently, after at least a year since the operation. The findings on reexamination teach that conservative treatment should be perseveringly applied but that if operative measures become necessary, the operation should be radical; conservative, half-way surgical measures cannot be relied on for a permanent cure.

Münchener medizinische Wochenschrift

September 12, LVIII, No. 37, pp. 1945-1992

158 Paroxysmal Tachycardia H. E. Hering.
159 Electrocardiogram of Pulse with Regular Alternation of Weak and Strong Beats. (Elektrokardiogramm des Pulsus alternans beim Menschen.) G. Joachim.
160 *Diagnostic Importance of Emotional Instability of the Blood-Pressure. (Diagnostiche Bedeutung der psychogenen Labilität des Blutdruckes.) P. Schrumpf and Zabel.
161 Kinematography of the Heart (Zur Herzkinematographie.) A. Weber.
162 *Normal and Premature Sensation of Satiety. (Normale und vorzeitige Sättigung.) E. Neisser and H. Bräuning.
163 *Specific Reactions with Cancer. (Ueber Tumorreaktionen mit bes. Berücksichtigung der Meiostagminreaktion.) A. Stammler.
164 *The Family of Patients with General Paralysis. (Untersuchungen an Kindern und Ehegatten von Paralytikern.) F. Plaut and M. H. Göring.
165 *Rhizotomy Below Lumbar Enlargement of Spinal Cord. (Modifikation der Försterschen Operation, Resektion der Wurzeln am Conus medullaris.) M. Wilms and Kolb.
166 Night Treatment of Acute Gonorrhea. (Die Nacht-Behandlung der akuten m[illegible] Kuhn.
167 Treatment of [illegible] (Therapeutische Versuche bei [illegible] eyerstein.
168 Dosage in Roentgenotherapy. (Dosierung der Röntgenenergie.) T. Christen.
169 Vasoconstricting Substances in Serum in Rachitis, Tetany and the Exudative Diathesis. H. and L. Hirschfeld.

160. **Diagnostic Importance of Emotional Fluctuations in the Pulse.**—Schrumpf and Zabel report experiences which show that the rigid vessels in arteriosclerosis are unable to compensate the emotional changes in the heart-rate, and consequently the radial pulse reflects them. Any fluctuations in the diastolic blood-pressure of psychic origin, which amount to more than 15 per cent. of the systolic fluctuations, testify to the presence of arteriosclerosis.

162. **Premature Sensation of Having Eaten Enough.**—Neisser and Bräuning have had some patients who grew thin because their appetite was appeased with a few mouthfuls of food and they did not care to eat more and consequently were starving although their appetites were good. Experimental and clinical research was undertaken to determine the mechanism of the feeling of satiety, and they found that it depended on the pressure within the stomach. This pressure may be from the food itself or from the peristaltic contraction of the stomach or from pressure from without as from a tight corset. The peristaltic contractions of the stomach are started by the act of swallowing; they found that by pouring the food into the stomach through a tube, thus avoiding swallowing there was no sensation of satiation until much later than when a much smaller amount of fluid had been swallowed naturally. The research reported indicates that there is the same delicate and constant connection between the motor functioning of the mouth and of the stomach as between the secretory functioning of mouth and stomach to which Pawlow called attention. Besides laying aside the corset, some suggestion was needed to train the young girls to eat normally and enjoy the entire meal with appetite instead of being satisfied with a few mouthfuls, but this once accomplished they rapidly took on weight. None of his girl patients was unduly nervous or hysteric. In another group of patients the early satiation was traced to excessive tonicity of the stomach walls and hasty eating. When they were trained to eat more hygienically they soon became normal eaters. He found it a help in treating these patients and others with various stomach troubles, to have them recline while taking their meals. This seemed to alter the pressure within the stomach in some beneficial way.

163. **Specific Cancer Reactions.**—Stammler has been testing the various ferment reactions that have been proposed as an aid to the diagnosis of cancer, and has found that the meiostagmin reaction is frequently a most valuable aid for differentiation of dubious conditions. He examined the serum of 340 patients with various affections, including 120 with certain cancer, and obtained a positive reaction in 73 per cent. of the cancer cases. At the same time he warns that a positive reaction was obtained also in 20 per cent. of the patients with other affections, mostly diphtheria and scarlet fever, diabetic gangrene and enlargement of the prostate. The reaction, however, was never positive in cachexia of noncancerous origin. [The technic for the meiostagmin reaction was described editorially in The Journal, May 28, 1910, page 1780.] Stammler in studying these various reactions happened on another which he thinks may prove of value. It proved positive in 82 per cent. of the 100 tumor patients and only in fourteen of the 130 patients with other affections examined. The technic is the same as for the meiostagmin reaction, only both serum and antigen are used less diluted. The mixed fluids are set in the autoclave for six hours and then set aside to cool gradually. With the cancerous serum precipitation soon occurs, leaving the supernatant fluid clear, while the precipitation with non-cancerous serum is very slight and the fluid persists turbid. He used an extract of a recently excised liver carcinoma, adding to 2 c.c. of the extract dilution 0.1 or 0.5 c.c. of undiluted serum. The findings were identical with this and the meiostagmin test. All the various reactions that he reviews are traceable to the presence of a special ferment in malignant growths.

164. **The Families of Paralytics.**—Plaut and Göring were amazed to find that the families of fifty-four persons known to have general progressive paralysis had so seldom been suspected of syphilis, and yet many of the consorts and children gave a positive Wassermann reaction and some of them presented unmistakable evidences of syphilis. They urge the necessity for investigation of conditions in the families of persons known to have syphilis, as an important task which physicians should not shirk.

165. **Modified Technic for Rhizotomy.**—Wilms and Kolb severed the sensory nerve fibers in the conoid distal end of the spinal cord, instead of the typical Dana or Förster operation, in three cases and commend this technic as liable to prove equally effectual, while it is a much less serious operation than the original technic. They describe their cases and analyze the anatomic conditions in the conus medullaris. The first patient had Little's disease and slight but decided benefit was apparent even from the timid tentative operation. The second patient was a man of 30 with spastic paralysis of both legs and great benefit was derived although a tendency to ataxia had to be overcome. This patient had bladder disturbances with retention of urine, and these were not modified by the operation. In the third case the contractures were due to athetotic spasm and the functional result was less good. The operation is so simple that scarcely ten minutes were required for it after the dura had been opened.

Therapie der Gegenwart, Berlin

September, LII, No. 9, pp. 385-432

170 Clinical Importance of the Electrocardiogram. H. E. Hering.
171 *Comparative Frequency of Differences in the Right and Left Radial Pulse. (Häufigkeit von Pulsunterschieden an der Radialis zwischen rechts und links.) Könnecke.
172 *Hemoptysis and Its Treatment with Digitalis. (Entstehung des Lungenblutens und seine Behandlung mit Digitalis.) C. E. Focke.
173 Means to Keep Milk Cool and Free It from Fat. (Kuhlhaltung der Säuglingsmilch. Entfettung der Säuglingsmilch.) W. Klink.
174 Dose of Roentgen Rays for Deep Exposures. M. Fraenkel.

171. **Differences in the Radial Pulse Right and Left.**—Könnecke examined 500 persons, sick and well, and found the radial pulse alike on both sides in only 56 per cent.; in 2.5 per cent. there was marked difference. These differences in the pulse were traceable in some cases to purely local or slight central causes with otherwise intact vascular system. His practical conclusion is that the radial pulse on both sides should be tested and not one alone. The left pulse was the stronger in 14 per cent. of 455 right-handed individuals and in 43 per cent. of 21 ambidextrous. With persons over 45 the difference in the pulse is generally due to arteriosclerosis of the orifices of the arteries, if no peripheral changes in the artery wall can be detected.

172. **Digitalis in Treatment of Hemorrhage from the Lungs.**—Focke analyzes forty cases from his own experience and a number on record, his conclusions being that hemorrhage from the lungs is by no means due to tuberculosis in as large a proportion of cases as is generally assumed. Tuberculosis could be incriminated in only seven, that is, in a small per cent. of his cases. In three other cases there was pronounced anemia, in another furunculosis, in another nephritis. In twelve others there was a severe cough, from acute catarrh in five, with congestion in the head in one. In seven other cases there was chronic irritation of the air passages in elderly persons with asthma, bronchial ectasia or arteriosclerosis. The hemorrhage occurs almost invariably from local congestion, inducing diapedesis; rupture of a vessel is very rare. As the diapedesis occurs only from local stasis, treatment should aim to regulate the circulation in the region and for this nothing is so effectual as digitalis. The hemoptysis may not be threatening but it always frightens the patient and his family and it may run into something threatening, so that treatment should be instituted at once. The proper measures are those that put an end to the causal local disturbance in the circulation and prevent its recurrence, namely, by dietetic and medicinal measures, keeping the bowels open and regulating the circulation with digitalis. He generally orders for adults an infusion of the leaves.

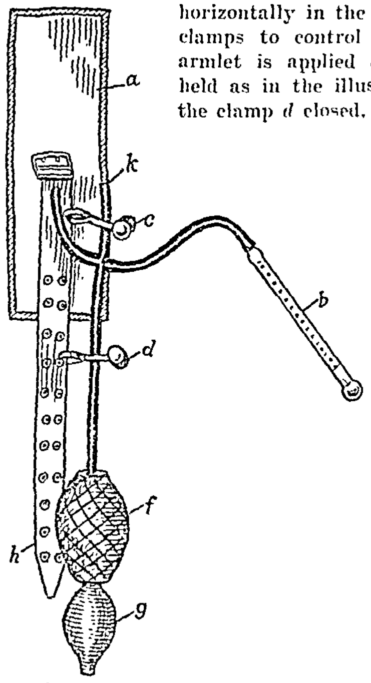

Figure 1.

Virchows Archiv, Berlin

July, CCV, No. 1, pp. 1-160

175 Regenerative and Blastomatous Formation of Tissues. C. S. Engel.
176 Solid Ovarian Tumor Originating in the Three Layers of the Derma. (Zum Studium der festen Tridermome des Eierstockes.) E. E. Franco.
177 Case of Multiple Cysts in Appendix. T. Sissojeff.
178 Finer Structure of the Giant Cells in Gummas and Sarcomas. T. Wakabayashi.
179 Human Colostrum. F. Berka.
180 Mucoid Connective Tissue. E. Björling.
181 Iron Metabolism in Pernicious Anemia and Leukemia. K. Kennerknecht.
182 Influence of Adrenals on Depression of Blood-Pressure. W. Nowicki.
183 Unequal Bifurcation of Little Finger. H. J. M. Schoo.
184 Anomalies of Pulmonary Veins and Bilocular Heart. R. Schröder.
185 Enlargement of Spleen with Experimental Pneumococcus Infection. G. Porrini.
186 Valves of the Femoral and Saphenous Veins in Relation to Sapheno-Femoral Anastomosis for Varices. E. Hesse and W. Schaack.

Wiener klinische Wochenschrift, Vienna

September 14, XXIV, No. 37, pp. 1295-1322

187 Complement Binding in Scarlet Fever and Measles. (Komplementbindung bei Scharlach und Masern.) J. Kappel.
188 Malformation of Scapula. (Ueber die skaphoide Form des Schulterblattes.) V. Kollert.
189 Bradycardia with Jaundice. (Ueber die Pathogenese der ikterischen Bradykardie.) S. D. Danielopolu.
190 Poisoning from Contact with Certain Plants. (Phytonosen.) F. Kanngiesser.
191 *Simplified Sphygmomanometer. (Das neue Modell meines Blutdruckmessers.) M. Herz.

191. **Simplified Sphygomanometer.**—Herz has modified his blood-pressure indicator so that the pressure is regulated practically automatically while the entire attention of the operator can be concentrated on his palpation of the pulse. Even with this change in his original hemodynamometer, it is still, he asserts, the smallest and simplest of all apparatus of the kind in practical use. Fig. 1 shows at *a* the rubber armlet and leather strap, *h*; *b*, the manometer tube, is held horizontally in the patient's fingers, and *d* and *c* are the two clamps to control the supply of air from the bulb. The armlet is applied and strapped tight, the manometer tube held as in the illustration, the mercury at zero. Then with the clamp *d* closed, the ball *f* is pumped as full of air as possible, until its net is stretched to the utmost. Then the operator feels for the radial pulse with his left hand and with his right opens clamp *d*. The air penetrates very slowly into the cuff and the mercury slowly moves toward the farther end of the tube. The moment that the pulse disappears, the clamp *d* is closed again, so that the communication between the bulb and the cuff is again interrupted. Opening then the clamp *c* permits the escape of the air in the cuff and manometer, and the measurement can then be taken again. The

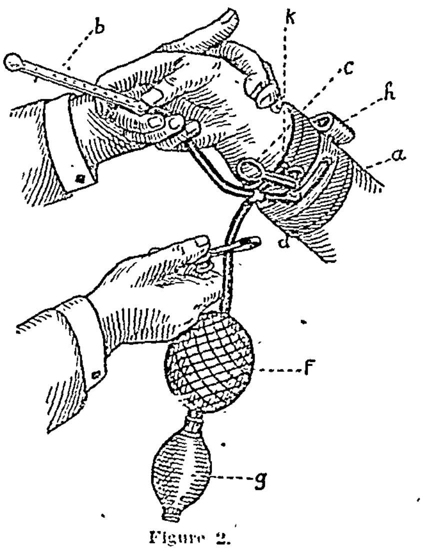

Figure 2.

special feature of the apparatus is that the stout-walled ball *f* serves as a reservoir for the compressed air. It holds enough air for the measurement to be taken over again three or four times. The apparatus further permits recognition of the diastolic pressure by the lessening of the radial pulse. The apparatus is completely emptied by opening both clamps at once.

Zeitschrift für Geburtshülfe und Gynäkologie, Stuttgart

LXVIII, No. 3, pp. 591-823. Last indexed September 2, p. 854

192 *Treatment of Asphyxia of the New-Born. (Zur Behandlung [illegible] B. S. Schultze. (Wiederbe- [illegible] R. Olshausen. (Behand- [illegible] W. Nacke.
193 Gestation in Rudimentary Cornu of the Uterus. (Zur Gravidität im rudimentären Uterushorn.) W. Beckmann.
194 Treatment of Eclampsi [illegible] Extract of Leeches; Fourteen ([illegible] klampsie mittels intravenöser [illegible] von 14 Fällen.) F. Engelmann.
195 Early Development of the Ovum. (Zur frühesten Eientwicklung.) Heine and J. Hofbauer.
196 *Relations Between Difficult Delivery and Asphyxia of the New-Born and Persisting Psychic and Nervous Disturbances. (Zur Frage der Beziehungen zwischen asphyktischer und schwerer Geburt und nachhaltigen psychischen und nervösen Störungen.) W. Hannes.
197 Sterilization with Tetrapol. (Ueber Desinfektionsversuche mit Tetrapolgemischen.) O. Polano.
198 *Importance of Albuminuria in Pregnancy and Puerperium. (Klinische Bedeutung der Albuminurie in der Schwangerschaft, bei der Geburt und im Wochenbett.) O. Jaeger.

192. **Treatment of Asphyxia of the New-Born.**—Schultze replies to Ahlfeld's recent statement that the swinging method is too dangerous, and recapitulates the directions for this technic. He remarks that one of the principal blunders that beginners may make with this method is to swing the child so slowly that it bends over backward. This is best prevented by letting the last three fingers of both hands lie along the back, thus supporting the child in the upward swing. The swinging may be done so vigorously that the pelvic end goes too far and the spine is flexed in the chest region. This exposes the intestine to danger of being crushed, while it permits no or only imperfect expiration. Or the swinging may be so gentle that the pelvis sinks sideways. To avoid this, as soon as it is seen that the swinging was too gentle, the child should be dropped into the inspiration position or, if one is lively enough, take half a step forward; the resulting compensation in the shoulder and elbow region will catch the child still in the expiration position. Practice will teach the proper medium between too vigorous and too feeble swinging, so that the pelvic end of the child will sink gradually on its thorax. But this practice must not be done *on the asphyxiated new-born child; that is too precious material for such* exercises. They should be done on infant cadavers.. He lays most stress on the supply of oxygen to the medulla oblongata which is attained by the swinging. At each swing about 20 c.c. of atmospheric air flows in and out of the lung, while the circulation of the blood is mechanically started at the same time. Without a supply of oxygen from without, as long as the circulation keeps up, the blood grows poorer and poorer in oxygen as it keeps yielding it up to the tissues. Nothing but a supply of oxygen to the medulla can revive its deeply depressed excitability. Although a hot bath may promote the circulation under other conditions, in the asphyxiated new-born child it can only aggravate the condition of the blood, augmenting its venous character. He regards the chilling of the skin as the best stimulus for the respiration when the child is only slightly asphyxiated. Only when the child does not breathe and cry after a few minutes of mild stimulation of the skin does he cut the cord, with as little loss of blood as possible, and then apply more vigorous measures.

Olhausen speaks a word in favor of blowing air into the lungs and also of letting a little blood escape from the umbilical cord in blue asphyxia when the symptoms seem to indicate that there is undue congestion in the inferior vena cava and right heart; the latter is not able to master its contents. He warns against too hasty and vigorous measures; the tender new-born must be treated differently from an older person or injury may result.

Nacke remarks that the Schultze swinging is probably done far too often and too much, but still the proper technic is rarely used. He wraps the child in a warm cloth, holding it across the back with the forefingers in the axillæ. He first dips the child in a hot bath, then in a cold, then rubs and if the heart is not working, massages the heart, and only when these fail does he swing it. He has found massage of the heart very useful, and thinks that the benefit from the swinging is due more to stimulation of the contractions of the heart than to stimulation of the respiration center. He percusses *the heart region with four fingers of his right hand*, thus tapping it elastically about three hundred times in a minute. The heart frequently revives after this even when no sounds had been perceptible from it with the stethoscope before.

196. **Relations Between Difficult Delivery and Nervous and Mental Trouble Later.**—Hannes has been investigating the present condition of 150 children born severely asphyxiated at the maternity at Breslau between 1893 and 1904. Also of a second series of 150 children delivered with forceps during the same period, and of a third series of 150 delivered spontaneously and normally. He sent a question-blank containing forty queries to the various families or filled it out himself from his knowledge of the children. The final conclusions from comparison of these groups are that difficult delivery has absolutely no influence on the nervous and mental condition of the child in later years unless there has been some direct injury of an organ, which is most exceptional. When the asphyxiated or forceps child survived the first week or so it developed thereafter the same as the normally born children, the proportion of cases of nervous or mental impairment being practically the same in each of the three groups, and the mortality in the first ten weeks being approximately the same. The data show further that the first-born children survive in much larger numbers than the children born to already large families.

198. **Albuminuria During Pregnancy and the Puerperium.**—Jaeger examined systematically the urine of 100 women during the last months of pregnancy and of 120 immediately after delivery. He found albuminuria in 70 per cent. of the pregnant women, and in 25 per cent. the albuminuria was of the orthostatic or lordosis type. Some latent bacterial influence is often responsible for the albuminuria and this influence may increase to actual direct injury of the kidneys during a later pregnancy or after delivery. He found tubecasts showing already pronounced injury of the kidneys in 11 per cent. With the lordosis type there were no tubecasts until after delivery. Albumin was almost invariably present in the urine during delivery and in larger amounts in primiparæ. Mechanical, toxic and infectious factors evidently are all involved in the albuminuria during pregnancy and childbirth, and also a constitutional predisposition on the *part of the kidneys in the lordosis type.*

Zeitschrift für Urologie, Berlin

August, V, No. 8, pp. 585-712

199 *Symptomatology, Diagnosis and Treatment of Horseshoe Kidney. (Hufeisenniere.) T. Rovsing.
200 Congenital Hydronephrosis. J. Verhoogen and A. de Graeuwe.
201 Transformation of Bladder Epithelium Into Secreting Cylinder Epithelium. (Umwandlung des Blasenepithels in sezernierendes Zylinderepithel.) O. Zuckerkandl.
202 Nephrotomy Supplementary to Pyelolithotomy and Importance of Latter in Prevention of Tardy Hemorrhage from the Kidney with Nephrolithotomy. D. Kusnetzky.
203 Non-Prostatic Retention of Urine in Senile Bladder. M. W. Ware.
204 Neuralgia in Bladder, Due to Varicocele. B. Maraini.
205 *Operative Influencing of Kidney Secretion. (Betrachtungen über die Nierensekretion.) P. Heresco.
206 Metastatic Carcinosis of the Ureters with Anuria with Nephritis on Same Side. F. Schlagintweit.
207 Traumatic Hydronephrosis Cured by Pyeloneostomy. H. Wildbolz.
208 Origin of So-Called Hypertrophy of the Prostate. G. Marion.

September, No. 9, pp. 713-800

209 Acute and Chronic Healthy Gonococcus Carriers. (Gonokokkenträger.) P. Asch.
210 Prostate Lipoids and Prostate Concretions. H. L. Posner.
211 Syphilis of the Bladder. V. Pereschiwkin.
212 Congenital Diverticulum of the Urethra. J. P. Haberern.
213 Tuberculosis of Right Kidney Complicated with Right Parametritis; *Peculiar Non-Tuberculous Changes in Left Ureter.* J. Voigt.
214 Psychic Onanism. M. Porosz.

199. **Diagnosis and Treatment of Horseshoe Kidney.**—Rovsing has encountered four cases of horseshoe kidney in the last seven years and states that this deformity should be suspected whenever a patient complains of oppressive pain across the abdomen from one kidney region to the other, which subsides entirely when the patient reclines on his back; especially when the pain is brought on by physical exertion and becomes intensely exaggerated when the spine is bent over backward, and a tumor can be palpated from the right or left side in front back to the spine. In two other cases this syndrome was manifest except that the pain was not essentially augmented when the spine was bent over backward and the pain did not subside as the patient lay down on his back. In these cases an operation revealed that the trouble was merely a tuberculous affection of some mesenteric lymph-nodes. The pain from horseshoe kidney can be relieved only by repose and avoidance of all physical exertion. Where this is impracticable, operative measures are indicated, and in his third case Rovsing restored approximately normal conditions by cutting the kidney through the center, thus dividing it into two parts, each of which slid into its normal place and the patient thus has now two approximately normal kidneys. His attempt to do this through the ordinary slanting lumbar incision proved impracticable in his first two cases; in the third case he reached the kidney by the transperitoneal route, outside of the colon and duodenum, thus reaching the center of the single kidney by a rather roundabout road, separating and lifting the peritoneum, leaving intact the mesentery over the isthmus part of the kidney, as the mesentery at this point had evidently suffered from chronic pressure from the kidney. The isthmus in this case was a mass of true kidney tissue, and he avoided the otherwise inevitable copious hemorrhage by applying the liver resection technic, slowly squeezing the tissues in the grip of an angiotribe until the isthmus was reduced to a ribbon, and suturing on each side after this ribbon was cut. The results have been so excellent that he intends to propose this operation to the two other patients.

205. **Operative Influencing of Kidney Secretion.**—Heresco operated in 1903 in a severe case of diabetes insipidus in a youth of 15. He exposed the left kidney, which was loose and displaced, and massaged the renal plexus with kneading movements and then restored the kidney to place with the Guyon technic. His aim was to influence the functioning of the kidney as sympathectomy influences the tachycardia in exophthalmic goiter. The results surpassed all anticipations, the polyuria and polydipsia subsiding at once, and permanently over eight years to date. The skin and muscles bled profusely as they were incised, but as soon as the stem of the kidney was kneaded between the fingers all hemorrhage ceased. In 1909 a similar operation was done on another patient, a young man with diabetes insipidus and both kidneys displaced, but the results were not so striking as in the first case although the patient was much improved by the nephropexy on both sides and kneading of the renal plexus. Heresco has been studying on animals the influencing of renal secretion by manipulating the renal plexus, and emphasizes the necessity for abstaining from the slightest contact with the renal plexus when operating in cases with a tendency to anuria as any manipulating of the kidney has an inhibiting influence on its secreting function.

Zentralblatt für Chirurgie, Leipsic

September 16, XXXVIII, No. 37, pp. 1241-1272

215 *Arteriovenous Anastomosis for Angiosclerotic Gangrene. (Zur arterio-venösen Blutüberleitung bei angioskierotischer Gangrän.) Wieting
216 *Staining of Living Tissues for Better Examination. (Ueber Färbung lebender Gewebe zu topographischen Zwecken.) Z. Slawinski.

215. **Arteriovenous Anastomosis for Angiosclerotic Gangrene.**—Wieting has performed this operation in five cases with excellent results, diverting the arterial blood into the venous system. These five were the only ones in his 150 gangrene cases in which the indications seemed to offer a prospect of success for this special technic, and the excellent outcome refutes, he declares, the theoretical objections that have been made against this operation.

216. **Staining a Fistula, Etc., to Aid in Diagnosing.**—Slawinski has found it of great assistance in excising a fistula passage to inject first a little saturated aqueous solution of methylene blue. The tissues take the stain and all the ramifications of the fistula are thrown into relief. The same technic is also useful at times to trace the course of normal passages. The stain is not washed away at once by the blood like bismuth paste.

Zentralblatt für Gynäkologie, Leipsic

September 16, XXXV, No. 37, pp. 1297-1328

217 *Serotherapy of Pregnancy Toxicoses. (Weitere Erfahrungen über die Behandlung von Schwangerschaftstoxikosen mit normalem Schwangerenserum.) A. Mayer.
218 Pituitary Extract as Oxytocic. (Pituitrin als wehentreibendes Mittel.) V. Bagger-Jorgensen.
219 Action of Epinephrin. (Zur Kenntnis der Adrenalinwirkung.) M. Schwab.
220 Glycogen Production in Uterus Glands. (Glykogenproduktion, eine physiologische Funktion der Uterusdrüsen.) L. F. Driessen.
221 Advantages of Local Application of Camphorated Glycerin in Gynecology. (Verwendung des Kampfers in der Gynäkologie.) R. F. v. Budberg.

217. **Serotherapy in Pregnancy Toxicoses.**—Mayer reports three additional cases with great benefit from three intravenous injections of 20 c.c. of serum from a normal pregnant woman. One patient was a young woman with severe eclampsia coming on during the sixth month of pregnancy. She was brought to the hospital in profound coma, no corneal reflex, pulse, 96 and tense; blood-pressure, 175; 7 per cent. albumin in the 80 c.c. of urine drawn from the bladder, but no distinct edema. The second injection was made after the twenty-first convulsion, the coma persisting unmodified except for transient rousing fifteen minutes after the first injection. In twenty minutes after the second there were signs of returning consciousness and after two hours another and the last convulsion followed, and improvement then rapidly progressed. A third injection was made at the seventh hour and spontaneous delivery followed in less than nine hours after the last convulsion. No other remedies were given. In another case the pregnancy intoxication manifested itself in numbness, itching or formication, all subsiding after an intravenous injection of 10 c.c. of serum from a normal pregnant woman. The third patient had severe and extensive herpes over the body which persisted for two months till delivery, and became much aggravated thereafter. An injection of 20 c.c. of normal pregnancy serum was then made, intramuscularly, as no site for an aseptic injection into a vein could be discovered. Improvement followed at once; two more injections were made before the whole body was freed from the herpes.

Gazzetta degli Ospedali e delle Cliniche, Milan

September 10, XXXII, No. 109, pp. 1147-1162

222 *Syphilis of the Stomach. (La sifilide dello stomaco.) A. Mathieu.
223 Perineal Prostatectomy. (Ipertrofia prostatica complicata a calcolosi vescicale e a restringimento uretrale trattata colla prostatectomia totale perineale.) O. Betti.

September 12, No. 110, pp. 1163-1170

224 Immunizing Properties of Desiccated Tuberculous Sputum. (Proprieta immunizzanti dell'espettorato tubercolare disseccato al calore.) G. Romanelli.

222. **Syphilis of the Stomach.**—Mathieu gives a historical review of syphilitic lesions of the stomach from Andral's two cases in 1838 to date, citing in particular from Fournier's work on syphilis of the stomach in which he described two cases of "false cancer of the stomach;" a tentative course of mercurial treatment was almost casually instituted before the contemplated operation to remove the tumor palpated in the stomach, and in a few months all trace of the cancer had disappeared. In other cases the syphilitic lesions simulated cancerous stenosis at the pylorus or induced ulceration or changes in the shape of the stomach resulting in hour-glass stomach. In one of the cases cited the pylorus was resected before the syphilitic nature of the lesion was ascertained. In other cases the syphilitic stenosis at the pylorus continued to progress notwithstanding vigorous antisyphilitic measures. In another case an actress with a history of syphilis had apparently a hemorrhagic gastric ulcer, rebellious to ordinary measures but healing at once under potassium iodid. The patient had a recurrence a few years later while travel-

ing but no physician would heed her requests for antisyphilitic treatment for the hemorrhagic ulcer, and she used up nearly her last remnant of strength in traveling back to her old physician who again banished all symptoms by vigorous potassium iodid treatment. In another case a man was on the point of having an operation performed to relieve the disturbances from an hour-glass stomach, the change in shape having apparently come on gradually. A tentative course of antisyphilitic treatment induced striking improvement, and the stomach subsided more and more toward normal shape. There was evidently gummatous induration in the stomach wall shriveling and drawing it up at this point and thus separating it into two parts. In every case of severe stomach disturbances in a patient supected of syphilis, the possibility of a syphilitic origin should be borne in mind. The coincidence of tertiary syphilitic lesions elsewhere should suggest a tentative course of specific treatment.

Policlinico, Rome

September 10, XVIII, No. 37, pp. 1161-1192

225 Operative Treatment of Aneurysm of the Aorta. (Sul tentativi di trattamento chirurgico degli aneurismi aortici.) V. Barnabo.

Riforma Medica, Naples

September 11, XXVII, No. 37, pp. 1009-1036

226 Aortic Disease in Persons Working in High Temperatures. (Per l'eziologia delle affezioni aortiche negli individui che lavorano in ambienti sovrariscaldati.) E. Tedeschi.

227 Tumor of Dental Origin in Lower Jaw. (Caso di tumore di origine dentaria del mascellare inferiore.) U. Zandonini.

Ugeskrift for Læger, Copenhagen

September 7, LXXIII, No. 36, pp. 1309-1336

228 *Quack Humbug. (Arkana og Kvaksalvere.) V. Lassen.

228. **Quack Humbug.**—Lassen tells of some of the most flagrant examples of quack practices in Denmark, especially the orthopedic appliances made by quacks and sold at high prices as a remedy for all kinds of diseases and deformities. He gives an illustration of one, for instance, a harness of leather and metal comprising a corset fitting from axillæ to thighs, broad bands strapped around the thighs, calves and ankles, the harness fitting over the shoulders and under each foot—this complicated and expensive contrivance was fitted to an adult man solely for the purpose of correcting a pes valgus. Lassen asserts that the medical profession ought to use its influence in particular to obtain legislation requiring that permission must be obtained from the authorities before electric belts and the like can be advertised or sold, and that physicians and quacks in other countries shall not be allowed to advertise in Denmark without special permit, and that no one shall be allowed to make or sell orthopedic appliances without special training and having passed an examination by a board comprising at least one physician and one skilled orthopedist, and that the appliances must be made only on a physician's prescription and only when the appliance-maker takes the measurements himself. Lassen did not ask the medical society before which he was speaking to vote on these suggestions but he did appeal to the society to call the attention of the public health authorities to the damage wrought by unscrupulous quacks with their ill-fitting, gangrene-inviting bandages and harnesses which they sell for osteomalacia and all kinds of affections, robbing the poor right and left. He knows of many a family where a cow was sold to buy the electric belt or harness. He adds that not a few unthinking persons will ascribe such efforts on the part of the profession to professional envy, but he says that the medical profession never competes with quacks in selling electric belts and the like, and that it certainly will be able to prove its disinterestedness in wishing to place the making of orthopedic appliances in the hands of those specially qualified for the work. Lassen mentions parenthetically a certain James Kidd who lives in America and advertises extensively in the Danish papers that he will cure all diseases gratis. Lassen has ascertained that Kidd sends the same advice to all who apply to him, regardless of the symptoms they describe, and, of course, he has to be reimbursed for the medicines he sends. A postman has told Lassen that over $100,000 is sent out to Kidd every year from Denmark.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

Experimenta on the Processing of Persimmons to Render Them Non-Astringent. By H. C. Gore, Assistant Chemist, Division of Foods, Bureau of Chemistry. With an Introduction by David Fairchild, Agricultural Explorer, in charge Foreign Seed and Plant Introduction, Bureau of Plant Industry. Bulletin 141, U. S. Department of Agriculture, Bureau of Chemistry. Paper. Pp. 31, with illustrations. Washington: Government Printing Office, 1911.

A Practical Handbook of the Diseases of the Ear. For Senior Students and Practitioners. By William Milligan, M.D., Aurist and Laryngologist to the Royal Infirmary, Manchester, and Wyatt Wingrave, M.D., Pathologist (Lately Physician) to the Central Throat and Ear Hospital, London. Cloth. Price, $5 net. Pp. 596, with 293 illustrations. New York: Macmillan Co., 1911.

Paludism. Being the Transactions of the Committee for the Study of Malaria in India. Edited by S. P. James and S. R. Christophers. Issued, under the Authority of the Government of India, by the Sanitary Commissioner with the Government of India, Simla. Paper. Price, 2 rupees. Pp. 129. No. 3. July, 1911.

Proceedings of the Council Massachusetts Medical Society, October 5, 1910, to June 13, 1911, and Proceedings of the Society, June 13 and 14, 1911. A Directory of the Officers and Fellows, July 1, 1911. Paper. Pp. 96. W. L. Burrage, Secretary, 282 Newbury Street, Boston.

Conduct and Its Disorders Biologically Considered. By Charles Arthur Mercier, M.D., F.R.C.P., F.R.C.S., Physician for Mental Diseases to Charing Cross Hospital. Cloth. Price, $3.25 net. Pp. 377. New York: Macmillan Co., 1911.

Fortschritte der naturwissenschaftlichen Forschung. Von Prof. Dr. E. Abderhalden, Berlin. Dritter Band. Paper. Price, 16 marks. Pp. 352, with 136 illustrations. Vienna: Urban & Schwarzenberg, 1911.

The Practice of Medicine. By Frederick Taylor, M.D., F.R.C.P., Consulting Physician to Guy's Hospital. Ninth Edition. Cloth. Price, $6 net. Pp. 1121, with illustrations. New York: Macmillan Co., 1911.

New Patents

Patents of Interest to Physicians

996200. Attachment for douche pans. Nettie E. Betsworth, Los Angeles, Cal.
996560. Apparatus for purifying water by ozone. Charles S. Bradley, New York.
996561. Ozonizing and compressing process. Charles S. Bradley, New York.
996399. Fumigating apparatus. Daniel N. Calkins, Rochester, N. Y.
996215. Device for producing sulfur dioxid. Philbert Contamin, Paris, France.
996330. Liquid dropper. George B. Haines, Chicago, Ill.
996350. Hot water bottle. Dumont P. Lamb, Portland, Ore.
996424. Hypodermic syringe. Buchannan W. Parsons, Missoula, Mont.
996128. Power syringe. Joseph Payne and J. E. Knapp, Belmont, Mass.
996836. Surgical appliance. George A. Conrad, Houghton, Mich.
996924. Massaging implement. Raymond W. Griffith, Milwaukee, Wis.
996850. Combined ozone generator and inhaling apparatus. Robert P. Gulley, Akron, Ohio.
996759. Disinfectant. Richard Haertel, Basel, Switzerland.
996773. Stable perborate mixture yielding hydrogen peroxid. August Klages and F. Sommer, Salbke-Westerhusen-on-the-Elbe, Germany.
997067. Surgical appliance. John W. Lange, Portersville, Cal.
996989. Shoe for flat-footed persons. Paul Langemann, Bremen, Germany.
997070. Bacteriological oven or incubator. Henry L. Lowe, Pittsburgh.
996679. Thermometer. Alfred Roesch, New York.
996797. Disinfecting device. Thad H. Rowland, Oberlin, Ohio.
997907. Dilator. William B. Dewees, Newark, N. J.
997914. Disinfecting device. Daniel N. Hitchcock, Kansas City, Mo.
997823. Speculum. Thomas H. Humphreys, Kissee Mills, Mo.
997514. Disinfecting compound and making. Joseph M. Schutz, Minneapolis.
997339. Ozonizer. Jan Steynis, New York.
997477. Process and apparatus for purifying solutions. Fritz Tiemann, Berlih, Germany.
998148. Surgical instrument. Robert A. Bachmann, Newoport, R. I.
998328. Massage implement. Charles Czinjak, Cleveland.
998000. Pill packaging machine. Otto E. Hermann and E. C. Dewitt, Chicago.
998310. Endoscope. Reinhold H. Wappler, New York.
41592. Self-recording thermometer case. Theodore H. Wurmb and R. Baumann, St. Louis.

The Journal of the
American Medical Association

Published under the Auspices of the Board of Trustees

VOL. LVII, NO. 18 CHICAGO, ILLINOIS OCTOBER 28, 1911

PRIMARY CARCINOMA OF THE FALLOPIAN TUBE *

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It is a well-known fact that no portion of the body is immune to the invasion of carcinoma. The more ready exposure of certain portions of the structure to traumatism renders its appearance in such tissues more probable. It is not surprising, then, that the cervix, exposed as it is to frequent injury in coitus and the course of pregnancy, should be the most frequently involved.

The many changes to which the active cellular structure of the ovary is subject render it particularly vulnerable to cancer, and authorities agree that probably 20 per cent. of ovarian tumors will prove malignant. Situated as the tube is, between two such vulnerable organs and in direct functional relations with them, it could scarcely be seen how extension from these structures to the tube could be avoided.

Notwithstanding the frequency of cancer in the ovary, the investigations of Orthmann would seem to show that carcinoma is rarely transmitted from it to the tube. It is true that 8 per cent. of all reported cases of tubal cancer are associated with tubo-ovarian cysts, but careful observation indicates that the disease was primary to the tube and had been projected into the ovarian portion.

In seeking a cause for such involvement it is found in the irritation cells which result from tubal inflammation. In all the cases, carefully observed, the malignant disease has been preceded by long-continued tubal inflammation. Inflammatory conditions of the tube are so frequent that abundant opportunity exists for development.

Primary carcinoma of the Fallopian tube is regarded as a rare affection, and it is rare, when compared with the frequency of carcinoma in the uterus. The investigations of Orthmann, Boxer and others, have demonstrated its occurrence more frequently than supposed. While sarcoma and chorio-epithelioma have been found, carcinoma is much more frequent.

Boxer, in his contributions to the knowledge of tubal carcinoma, has analyzed 100 cases.

In its early stages the disease presents no symptoms which are likely to awaken the fears of the physician. Indeed, the gravity of the condition may be overlooked when the patient is subjected to operative procedure, unless the specimens removed are as a routine procedure subjected to microscopic investigation.

The most frequent symptom is menorrhagia, and a watery discharge is not infrequent. Pain as a consequence is rare. It is true the patient may complain of an uncomfortable sensation in the affected side of the pelvis.

The symptoms enumerated are common to a number of conditions within the pelvis, and take place in women who have had prolonged or repeated inflammatory attacks. The appearance of such symptoms in women who have pelvic disorder, and especially a thin, watery discharge, should be an indication for early operative interference.

The neoplasm, even when exposed, does not always present an appearance which should warn the operator of its gravity. While the largest percentage of reported cases occur between the ages of 45 and 50, the proportion is not sufficiently great to be of any diagnostic importance. It has been found in women who had passed the sixtieth year, and as early as the twenty-seventh year.

The occurrence of menorrhagia and watery discharge in women who have been victims of pelvic inflammation, when found associated with enlargement of the tubal structure should be regarded as danger-signals of sufficient importance to demand investigation through an operative procedure.

Neoplastic rather than inflammatory involvement indicates radical removal. When both tubes and ovaries are involved in neoplastic change, or the tubes only, the operative procedure should include the removal of uterus and ovaries as well as the tubes.

The diagnosis of malignant neoplasm cannot be made from the macroscopic appearance only. No case should be accepted as malignant when such diagnosis is not confirmed by the microscopic findings.

A very interesting case illustrating the importance of the position I have just stated was sent by me to my private service at the Jefferson Hospital, Sept. 9, 1910.

History.—The patient was aged 34 years, married twice, but never pregnant. The only constitutional condition incident to the family was tuberculosis, although none of the immediate family had died of it. The patient's husband informed me that his wife's first husband had died of cancer. Puberty was established at the age of 14. Periods were regular, profuse, painless, and lasted four to five days. She had been treated for pulmonary tuberculosis during the last two years, but had apparently recovered. Five months before coming under my observation she began to experience pain in the pelvis for four or five days preceding menstruation. The menstrual periods occurred every three weeks, lasting three to four days, and were very profuse. She had also noticed during this time a whitish discharge.

Examination.—This disclosed a retroversion of the uterus, and behind it to the right was a mass the size of an English walnut, which was quite movable. Diagnosis was retroversion with endometritis and a prolapsed right ovary.

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* Read in the Section on Obstetrics and Gynecology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

Operations.—The patient was subjected to operation on September 10. The uterus was dilated and curetted, and the abdomen opened by the Pfannenstiel incision. The mass on the rignt side was found to be a neoplasm of the end of the tube, which was not adherent but freely movable. It was removed. The left tube was adherent and considerably thickened in its central portion. I contented myself with separation of the adhesions, and proceeded to shorten the round ligaments by carrying a loop of each between the layers of the broad ligaments and through the aponeurosis. The appendix was removed, although it presented nothing of an inflammatory character. The neoplasm, when cut through, gave the appearance of a fibroid which was undergoing fatty change. Microscopic examination disclosed the growth to be cylinder-cell carcinoma.

This report reached me on September 23, and the following day I removed the uterus, the remaining tube, and both ovaries. I was impelled to do this by the fact that at the previous operation I had found the left tube considerably thickened in its central portion.

Postoperative History.—With the exception of a slight phlebitis of the left leg, which developed on the fifth day after the second operation, the convalescence was very satisfactory. The patient was discharged in good condition Oct. 22, 1910. A week later some induration occurred at the lower angle of the wound, and a small quantity of sero-purulent fluid was discharged. A sinus discharging very slightly persisted for some months before it finally healed. It was difficult to account for this, as no silk was employed, either as ligatures or buried sutures. At the end of eight months the patient had gained 50 pounds, and seemed in the best of health. The uterus removed, aside from a small interstitial fibroid, was in good condition. The left tube the pathologist reported to be a tuberculoma.

This patient, but 34 years of age, presented the anomalous condition of carcinoma in one tube, tuberculosis of the other, and a myoma in the uterus. Her future cannot but be interesting.

CONCLUSIONS

The study of the cases which have been reported by a number of observers would seem to justify the following conclusions:

1. Menorrhagia and watery discharge occurring in women giving a history of previous tubal inflammation should be regarded as danger-signals demanding careful investigation.
2. The association with such symptoms of tubal masses should be considered as requiring their removal, and where both tubes are involved the removal of the uterus through an abdominal incision.
3. All neoplastic masses of the tube should be subjected to microscopical investigation, for only thus can the diagnosis as to malignancy or non-malignancy be accurately determined.

1426 Spruce Street.

Scientific Investigation vs. Theorizing and Speculation.—The utter futility of the speculative method as a means of attaining effective knowledge is completely demonstrated by the stagnation and inefficiency of medicine under its influence for thousands of years. The only sure and effective way of gaining knowledge is the empirical method, by patient observation and investigation, the tardy adoption of which was the sole means by which internal medicine has been revolutionized and vivified. The keynote of the true method was struck by John Hunter in his advice to Jenner when the latter was beginning to ponder on the subject of vaccination, "Do not think, investigate." The whole history of medicine is an imposing demonstration of the futility of theorizing and the utility of scientific investigation.—Nichols in *Popular Science Monthly.*

A MILK-BORNE EPIDEMIC OF TYPHOID FEVER

AND THE DEMONSTRATED VALUE OF THE WIDAL REACTION IN DETECTING A TYPHOID CARRIER

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This epidemic of typhoid fever, which occurred among the customers of one milk distributor, is reported, that once more the probable danger to the community of a carrier of infection, engaged in the production of a food, may be emphasized, and the value of the agglutination reaction of Widal, as a means for locating such a carrier, be more fully appreciated. By reports of such epidemics the public will be aroused to the dangerous possibilities of these carriers. With this realization, the cooperation of whole communities, which is lacking at present, will be enlisted, the selfish personal motives and prejudices of ignorance, which attempt to block the efforts of the health service, will be overcome and the culmination will be a general demand that methods be devised and means be generously provided that such carriers may be sought out in advance, and such epidemics thus anticipated.

In the last twenty-five years, an average of 106 cases of typhoid fever has been reported yearly to the Board of Health of Worcester, a city with a population of 145,000 at present. This is, roughly, an average of one case a thousand of population a year for this period. In fact, however, the city has more than doubled in population in these twenty-five years, while the aggregate number of cases of typhoid fever is actually less in the second half of this period than in the first, increasing this ratio markedly. In the year 1910, the records of the health board show 295 reported cases, more than one case to each five hundred of population. The source of infection in 204 of these cases can be traced to one milk distributor's route. Through misunderstandings between responsible parties because of a change in physicians or transfer to the hospitals, nine additional cases were discovered after the epidemic was over, no report of which had been made to the Board of Health, and this number rightfully should be added to these 204 cases. Thus, in this epidemic at least 213 cases with ten deaths may be certainly attributed to one milk route. If the source of infection in several other cases could be surely traced, it is probable that several more of the 295 reported cases would be enumerated in this epidemic. Of these 213 cases, more than 180, after careful study, may be classed as primary, and it may be said that their infection was incurred at practically the same time. The remainder for the larger part were cases developing in families secondarily to one of the primary cases. Two were nurses employed in the hospitals in the care of primary cases, and a few are to be attributed probably to two cases among the employees of the distributor, who will be mentioned later.

From Jan. 1 to Aug. 11, 1910, only eighteen cases of typhoid fever had been reported to the Board of Health. During that day (August 11) seven more cases were reported. Six of these were on one milk distributor's route. An investigation of the premises of this distributor was made the following morning. Two of his employees complained that for the past two or three days they had had head and back aches, loss of appetite, felt weak and tired, but had continued about their work of distributing milk, washing bottles and other utensils used in the distribution of the milk. On physical examination, both had rose spots and temperatures, the higher only 100.5°. Blood examination showed positive Widal agglutination reactions in both. They were at once removed to the hospital. Specimens of blood and examination of all other persons on the premises were negative in results. These two cases of typhoid fever were not the source of the infection of the six cases reported on the day previously, as their symptoms were synchronous or even later in onset. It was concluded, however, that their infection was incurred from the same source. Therefore, evidently a prior source for the common origin of the infection had of necessity to be sought.

This distributing milk man secured his supply from a milk car and four dairies within a few miles of the city. From the milk car several other distributors also obtained their supply. No cases had developed on their routes. This fact seemed temporarily to rule out the car and its supply as the source of infection. That afternoon the four dairies were investigated. On ordinary inspection there was nothing suspicious about them. No person living on any of these farms, so far as could be learned, was or had been recently sick, with the exception of one woman, who, it was definitely proved before the day was over, did not have typhoid fever. That evening the specimens of blood obtained from every person connected with these dairies—men, women and children—were examined by the agglutination test for typhoid. Of these twenty-five or more specimens one gave a positive Widal test.

This man of the positive Widal was visited again the next day, and his previous history more carefully taken. He had been producing milk for thirty years. He said that he had had typhoid fever twenty-six years ago. For years he had not been sick enough to be confined to the bed. Two weeks before, however, he recalled that for a few days he had had a slight attack of diarrhea with some headache, accompanied by a small amount of bright blood in the bowel movements. He had not given this any especial attention, because he had been subject for years to such attacks, together with bleeding from hemorrhoids. He daily assisted his hired man with the milking and handled the utensils. He boarded in a family of nine, none of whom had had typhoid recently. Their Widals were all negative.

Subsequently (August 19-26), specimens of urine and feces were obtained from this man on four different occasions over a period of eight days. These were examined after the method described by the Overlanders, Graham and Dailey,[1] oxbile, malachite green and Endo's fuchsin agar media being used. The stools were negative as to typhoid. From each of the four specimens of urine, one or more actively motile bacilli was isolated. These bacilli did not stain by Gram's method, did not produce gas in dextrose agar, nor curdle milk, but did produce, however, a slight initial acidity in litmus milk followed by a return to the original reaction the same as did the control. There was no production of indol in peptone solution and no liquefaction of gelatin in seven days. These organisms were agglutinated in a few minutes by a dilution of 1-200 of blood-serum obtained from three different known typhoid patients. At this time, I was undergoing a course of inoculations with typhoid vaccines; my blood-serum also completely agglutinated them in the same dilution in fifteen minutes.

More than two months later (October 31-November 4), this man's blood and urine were again examined. The blood in a dilution of 1-200 gave a positive agglutination reaction with typhoid organisms in less than one-half hour. The three specimens of urine collected on alternate days and plated on Endo gave an abundant growth of only one type of colony. More than seventy of these colonies having been picked off, it was found that each one reacted similarly to the tests previously enumerated. In addition, at Professor M. J. Rosenau's suggestion, a rabbit was repeatedly inoculated during a three-week period with a vaccine made from one of these organisms. The serum of this rabbit at the end of that time gave a macroscopic agglutination reaction when tried out in series against cultures of the laboratory typhoid organism in a dilution as high as 1-1100. The serum of a second rabbit, employed as control and similarly treated with vaccine from the stock laboratory typhoid organism, agglutinated one of these organisms isolated from the urine in a dilution of 1-1350. This was as high a dilution as that in which the stock laboratory typhoid organism itself in the control series was agglutinated by the serum of this second rabbit.

The plates of this last examination were in marked contrast, presenting an entirely different condition of affairs from that which was found when, this same technic having been employed the preceding year, an examination was made of the urine and feces of twelve convalescent typhoid fever patients from the wards of the Worcester City Hospital, the bacteriologic work of both years having been performed in the laboratory of that institution. These twelve patients had been free from fever for from ten days to two weeks or more when examined. A typhoid organism was recovered from three, a positive result of 25 per cent. for the twelve cases. However, out of more than five hundred organisms isolated from these twelve cases, only three proved to be typhoid organisms — that is, only one typhoid organism was isolated in each of the three cases which were positive, while in this carrier case every one of the numerous colonies on the plates apparently was a typhoid colony.

The agglutination reaction seems of much value in tracing the source of milk-borne epidemics of typhoid fever, to judge not only from the experience just cited, where it was most instrumental in bringing this case of a carrier to light, but also from that of the preceding summer in two epidemics of fortunately a markedly smaller number of cases. The probable proof of the source of these two epidemics was not as certainly established by actual attempted isolation of the organism as in this epidemic just reported. The cooperation of the suspected individuals was lacking in submitting to further tests than a Widal, for their hostility was aroused because of the fear that their private interests would be jeopardized.

In the first of these epidemics eight cases occurred on one milk route. On the dairy farm suspected as the source was a case later diagnosed as typhoid fever, synchronous in symptoms with these eight cases, and therefore not the source of their infection. The people living on the farm were questioned, and it was discovered that one young man who had never had any severe illness in his life, had had, some two or three weeks previously, an attack of so-called "grippe" of about two weeks' duration, during which time he had felt unable to attend to his business. For two of those days he had had an attack which he called "cholera morbus." His blood gave a positive Widal reaction.

To the second of these epidemics at least fourteen cases of typhoid fever on one milk distributor's route can be attributed. In the search for a source of infection more than fifty Widals were performed on specimens of blood obtained from all the persons living on the different dairy farms supplying this distributor. Only *one of these Widals was positive.* The *man from whom this specimen was obtained gave no history of any recent illness.* The evidence that he might be the *probable source was strengthened* by this fact: the milk from this one of the several dairies was the milk bottled for the more particular customers, and on further analysis of the cases it was found that it was among those consuming this bottled milk that the fourteen cases occurred.

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[1] Overlander, C. L. and J. E., Graham and Dailey: Boston Med. and Surg. Jour., Jan. 14, 1909, clx, No. 2, p. 38.

It has been remarked that the light cases of typhoid fever, unrecognized as such, and the carriers of the specific organism constitute the most formidable source of infection in a community possessing a pure water-supply. Each epidemic leaves its residue of chronic carriers, *that are a threat of future epidemics.* These carriers should be sought out and prohibited from engaging in such an occupation as cooking, baking, dairy work, etc., which may from the articles handled and consumed without further cooking endanger the lives of others. Milk, from its nature, is an especially fine culture medium; if contaminated with typhoid bacilli, particularly in the warm summer months, it is a most "effective" intermediary agent from the carrier to the consumer.

The recommendation of the committee of the American Public Health Association on typhoid fever that physicians should be impressed with the necessity of reporting this disease promptly is an excellent one. For, "until the physician, who is really the scout of the public health service, reports the location of the enemy, all our paraphernalia with all its elaborate organization is at a standstill."[2] The truth of this statement is shown by the epidemic reported in this paper, since the Board of Health had no inkling that such an epidemic was about to burst on the community until physicians reported actual cases, when the two employees as secondary sources of further infection were promptly recognized and removed. But these light cases, for which physi*cians are not called in*, and carriers, because they are *unrecognized* as such, are the real danger of initiating idemics.

oid fever has been called a preventable disease, consider it as such is certainly the goal which the health *service must strive to attain.* That man ntly harbors the specific organism of typhoid fever erally recognized at present. Precautions are to protect the public from typical cases. If the chronic carriers of this disease could be known, and the food and water-supplies, as intermediate bearers, be protected from their contamination, typhoid fever could soon be stamped out. The disease is preventable only by working along this line. Therefore, the new and serious problem that confronts the health service at present is, *How is this knowledge of a carrier,* which is of such recent recognition, to be gained, before it is bought at the extravagant price of an epidemic? A *method of defense for this new problem, that is in the* least satisfactory, has not as yet been advised.

The various methods advocated for the discovery of carriers, as general examination of excreta, or even only the examination of the excreta of those persons with a history of a previous typhoid infection, are propositions too large to be practicable. The second suggestion makes no allowance for the fact that in many cases of typhoid carriers there is a lack of a previous history of typhoid fever, and again that many carriers excrete the bacilli only intermittently.

From the experience of the last two years as set forth in this paper, the suggestion is made that specimens of blood for Widals be taken generally from persons living on dairy farms or handling foods that are consumed without further cooking, and then that the excreta of those only that give a positive agglutination reaction be examined. The Widal reaction in most cases of typhoid fever rapidly disappears after defervescence. The presence of post-typhoid suppuration somewhat increases its persistence.[3] Most carriers possess it. Therefore, if a *Widal reaction persists,* that person if employed as mentioned above should be looked on with suspicion until proved free from typhoid organisms by repeated examinations of excreta.

This procedure also is an immense proposition, when, as is the case in the city of Worcester with a population of 145,000 for an example, milk is supplied from more than 600 dairies and 900 stores and distributors. These statistics take no account of bakers, cooks and other persons who come in intimate contact with other kinds of food. This simple procedure of a Widal reaction, however, should certainly be carried out on the blood of all persons handling, or living on farms producing, milk which is put on *the market as certified.*

61 Pearl Street.

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[2] Am. Jour. Pub. Hyg., February, 1910, xx, No. 1 (New Series vi, No. 1), p. 50.

[3] Louisson and French. Guy's Hospital Reports, 1907, lxi, p. 227.

THE TRYPTOPHAN TEST FOR CANCER OF THE STOMACH WITH SPECIAL REFERENCE TO PEPTIDOLYTIC ENZYME IN THE SALIVA *

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INTRODUCTION

The attention of the medical profession has recently been drawn to new ways of diagnosing cancer of the stomach by means of tests for the simplest products of protein digestion. Emerson,[1] who was among the first investigators to approach this field, found that "cancer tissue contains a ferment which, in the thermostat as well as in the stomach, is able to digest proteins beyond the peptone ('albumose') stage." He also observed that "this ferment is active in the presence of *free* hydrochloric acid." Emerson's discovery, coupled with the well-known fact that pepsin does not, in the stomach, conduct the cleavage of proteins beyond the stage of peptones, offered a method of determining whether or not the stomach has been invaded by a cancerous growth. A test for cancerous enzyme, if based on Emerson's findings, could not be applied, however, with the ease and directness which is desirable in clinical work.

THE GLYCYLTRYPTOPHAN TEST[2]

About two years ago Neubauer and Fischer[3] published a new test for cancer of the stomach, which was based on this same principle, but was applied specifically to the detection of an enzyme having the power of digesting a simple peptid. The substrate selected for this test was glycyltryptophan, a synthetic dipeptid containing the molecular radicals of glycin and tryptophan. Glycyltryptophan is readily hydrolyzed into these two amino-acids. Neubauer and Fischer selected glycyltryptophan as the peptid substrate for their test because tryptophan, which can readily be produced from it by enzymolysis, is the amino-acid that may be detected in the easiest and most direct manner.

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* From the laboratory of biological chemistry of Columbia University, at the College of Physicians and Surgeons, New York, and under the auspices of the George Crocker Special Research Fund.

[1] Emerson: Deutsch. Arch. f. klin. Med., 1901-02, lxxii, 415.

[2] In this paper the phrase "glycyltryptophan test" is invariably employed to indicate the Neubauer and Fischer process, which includes the use of glycyltryptophan. The term "tryptophan test" will be used to s method, which does not involve the use see Weinstein, J. W.: The Journal A. M. A 5.

[3] Neubauer Arch. f. klin. Med., 1909, xcvii, 499.

In the test, as recommended by Neubauer and Fischer, glycyltryptophan is added to a sample of the stomach contents in question and the mixture is incubated for twenty-four hours. The presence or absence of peptidolytic enzyme is then ascertained by determining with the aid of bromin water, whether or not tryptophan has been produced. A positive result which, according to Neubauer and Fischer, could not occur through the action of anything in normal gastric juice or contents, indicates the presence of a peptidolytic enzyme and implies the occurrence of carcinoma of the stomach, whereas, according to the same authors, a negative result indicates the non-occurrence of carcinoma. Neubauer and Fischer supported their conclusions as to the significance of this test with a series of convincing clinical observations. Naturally, this new test for cancer of the stomach promptly received a great deal of attention and interest.

THE TRYPTOPHAN TEST

I recently published[2] the results of some experiments which showed that the use of glycyltryptophan is superfluous for the detection of tryptophan-producing enzyme in gastric contents. A gastric cancer secretes enzyme which is capable of hydrating proteins into tryptophan and other amino-acids. Gastric contents always contain proteoses and peptones that are readily convertible by cancer enzyme into their corresponding simpler peptids and amino-acids, including tryptophan.[4] Consequently, it is unnecessary to add either a specific protein, or a simple peptid, or glycyltryptophan, as a tryptophan-yielding substrate for the easy detection of cancer protease in stomach contents.[4] It was shown by me that plain stomach contents served more satisfactorily for this purpose than stomach contents mixed with glycyltryptophan.

Previous observers, among them Erdman and Winternitz,[5] Glaesner,[6] and Volhard,[7] employed stomach contents directly for a similar purpose, but as incubation was not a part of the process in any of their methods, their observations as well as their findings, have little practical bearing on the method which was recommended in my original paper.

WARFIELD'S STUDY OF THE ACTION OF SALIVA ON GLYCYLTRYPTOPHAN

There has been wide difference of opinion regarding the value of the glycyltryptophan test for gastric carcinoma. A few have commended it highly, but a large majority have pronounced it valueless. The main objection which has been raised against the test is that glycyltryptophan yields tryptophan in a large number of cases in which no cancer exists, as shown at autopsy and by operation. It has been asserted that most achylia gastrica cases, whether due to carcinoma or not, give a positive reaction with glycyltryptophan.

Warfield[8] has lately made observations which help us to understand the current differences of opinion regarding the value of the glycyltryptophan test.[9] Warfield has found that the saliva of some people, when not acid (to litmus) to begin with, is capable of decomposing glycyltryptophan into glycin and tryptophan. He concluded that *swallowed alkaline saliva*, when mixed with neutral or faintly acid gastric liquid, imparts to the latter the power of producing tryptophan from glycyltryptophan, thus rendering "the *glycyltryptophan test* of no value in the diagnosis of cancer of the stomach." Warfield has shown that the peptidolytic enzyme in saliva is destroyed by heat.[10]

THE AUTHOR'S CONFIRMATION OF WARFIELD'S RESULTS

I have verified Warfield's findings. Every specimen of saliva, except one, in a total of eight was found to exert marked peptidolytic power on glycyltryptophan within twenty-four hours. The experiments in this connection were performed with glycyltryptophan and saliva directly, as a simple mixture, *and also after their mixture with stomach contents, which had either been neutralized or which contained a slight proportion of acid.* Neutralization in these cases was effected with one of the following alkalies: calcined magnesia; sodium bicarbonate and sodium hydroxid (1 per cent. solution).

No attempt was made to ascertain the limit of acidity within which saliva is able to induce the production of tryptophan from glycyltryptophan. Warfield states that acidity greater than that of a 0.05 per cent. hydrochloric acid solution prevents such action.

THE SPECIAL SIGNIFICANCE OF WARFIELD'S FINDINGS

The important facts which have been disclosed by Warfield explain in part the past difficulties with the glycyltryptophan test. That they render its positive responses particularly unreliable in cancer diagnosis is obvious, for such results may be due to swallowed saliva. On the other hand, that Warfield's findings do not disqualify my tryptophan test for cancer of the stomach is equally clear, since the salivary protease does not produce tryptophan from the proteins in non-cancerous gastric contents.

All investigators of the subject agree on the proposition that cancer secretes enzyme which is capable of converting protein into amino-acids. The tryptophan test has all the advantages and none of the disadvantages of the glycyltryptophan test. Warfield's peptidolytic salivary enzyme is devoid of effect on the tryptophan test. I have repeatedly added saliva to normal stomach contents of different degrees of acidity, but have never been able to detect tryptophan, even after prolonged incubation of the mixtures. In one special instance a specimen of stomach contents that contained no *free* hydrochloric acid, and which had been carefully neutralized with sodium hydroxid, (1 per cent. solution), *was mixed with saliva and kept in a thermostat for fourteen days.* Not a trace of tryptophan could be detected in the mixture at any time during the period. A few protocols, in this and other connections, are appended:

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[4] It is not very likely that stomach contents ever contain mixtures of proteins which would wholly fail to yield tryptophan among the products of complete proteolysis. Gastric mucus yields tryptophan under such conditions. Casein, egg albumin, gliadin and practically all other ordinary food proteins yield tryptophan in comparatively large proportions. It is probable that the proportion of tryptophan which is produced from the proteins in stomach contents, under favorable conditions for the test, is sufficient for detection in all cases except those characterized by practical absence of peptidolytic enzyme. But in such instances glycyltryptophan would also fail to yield detectable proportions of tryptophan. Whether the tryptophan that arises from proteins in stomach contents (in the tryptophan test) is ever decomposed, and sufficiently reduced in quantity (through the continued action of the enzyme), to yield a negative result with bromin water cannot be decided at present. Thus far, however, all observations indicate that no uncertainty is introduced into the test in this way.

[5] Erdman and Winternitz: München. med. Wchnschr., 1903, l, 982.

[6] Glaesner: Berl. klin. Wchnschr., 1903, xl, 599.

[7] Volhard: München. med. Wchnschr., 1903, l, 2129.

[8] Warfield: Bull. Johns Hopkins Hosp., 1911, xxii, 150.

[9] In referring to "the stages in the complete digestion of coagulable proteins" Warfield states that metaproteins are "commonly called albumoses." It is evident that in this case *albumoses* is a misprint for "albuminates."

[10] Dr. Gies, although suggesting the probability of ereptic and tryptic excretion by the salivary glands, thinks it possible also that the tryptophan-producing enzyme in mixed saliva is derived in part from bacteria in the mouth, especially from cavities in carious teeth. He has planned to investigate these possibilities.

Mrs. S. N., suffering from chronic gastritis, has been coming to my service at the Vanderbilt Clinic for the past nine years to get hydrochloric acid, which does her good. Examination of stomach contents shows: Free hydrochloric acid, none; combined acid, none; total acidity, 4; reaction to litmus, faintly acid.

GLYCYLTRYPTOPHAN TESTS (I-III)

I. Stomach contents, 20 c.c.
Saliva, 10 c.c.
Glycyltryptophan, 1 c.c.[11]
=Marked tryptophan reaction in twenty-four hours.

II. Stomach contents, 20 c.c.
Saliva (previously *boiled*), 10 c.c.
Glycyltroptophan, 1 c.c.
=Marked tryptophan reaction within twenty-four hours.[12]

III. Stomach contents, 20 c.c.
Water, 10 c.c.
Glycyltroptophan, 1 c.c.
=Tryptophan reaction; not so marked, however, as before, in twenty-four hours.[12]

TRYPTOPHAN TEST (IV)

IV. Stomach contents (neutralized with NaOH), 28 c.c.
Saliva, 20 c.c.
Glycyltryptophan, *None.*
Toluol, a few drops.
=No tryptophan reaction.[13]

The effect of saliva on Witte peptone has been tried in experiments of a similar nature—such as are outlined below:

TRYPTOPHAN TESTS (A-B)

A. Witte peptone, 2 gm.
Saliva (Jacob's), 10 c.c.
Water, 20 c.c.
Incubation, 7 days (with toluol).
=No tryptophan reaction.

B. Witte peptone, 2 gm.
Saliva (Kraus's), 10 c.c.
Water, 20 c.c.
Incubation, 7 days (with toluol).
=No tryptophan reaction.

THE AUTHOR'S FURTHER EXPERIENCE WITH THE TRYPTOPHAN TEST

I have been employing the tryptophan test for over a year and have found it a valuable sign in the diagnosis of cancer of the stomach. The main objection to the Neubauer and Fischer test is the frequent occurrence of positive responses in non-carcinomatous contents. This is not the case with the tryptophan test. On the contrary, in the case of the tryptophan test, *negative* responses have occurred in some specimens of stomach contents from true cancerous cases. By means of the tryptophan test I was able recently to distinguish all the malignant from the benign states in a series of pyloric obstruction cases prior to operation. Everybody knows the unusual difficulties that beset the endeavor to make a differential diagnosis of malignant from benign obstruction of the pylorus, since all the clinical features are the same in both conditions.

I am confident that the tryptophan test outranks every other available laboratory means for the diagnosis of cancer of the stomach. Further investigation is necessary, however, before it can be said that one or two positive tryptophan findings in stomach contents absolutely prove the existence of carcinoma. This degree of uncertainty is much less, however, than that connected with any other "sign of cancer." Among the "other signs" are absence of free hydrochloric acid from stomach contents, presence of lactic acid in stomach contents, occurrence of occult blood in stomach contents or feces, stasis of food, and the results of such newer methods as the Solomon, meiostagmin and hemolytic tests. Free hydrochloric acid is absent from stomach contents not only in gastric cancer, but also in chronic gastritis, pernicious anemia, exophthalmic goiter and achylia gastrica. On the other hand cancer of the stomach, chiefly of the pyloric region, may be accompanied by normal and even hyperacid states of the contents. Lactic acid, an important sign, frequently fails to occur in the contents of the stomach in cancerous cases, and it is occasionally present in undoubted cases of chronic gastritis. In general, lactic acid is prone to occur when free hydrochloric acid is absent and especially, also, when the motor powers of the stomach are impaired. Boas-Oppler bacilli are an excellent diagnostic feature of carcinoma ventriculi, but only when present in large numbers. Unfortunately they appear only when the invasion of the stomach by the carcinoma is extensive. They are never present unless free hydrochloric acid is absent and, in general, are not of very common occurrence. Occult blood in stomach contents and in feces occurs in ulcer of the gastro-intestinal tract, cirrhosis of the liver, and also in cardiac and renal cases that are attended by congestion of the viscera. The Solomon, meiostagmin and hemolytic tests are positive in conditions other than carcinoma.

I have made hundreds of applications of the tryptophan test to stomach contents. I have never obtained a positive response in any *undoubted* non-cancerous case, except such as resulted from gastro-enterostomy, in which the resultant artificial conditions favored the flow of intestinal contents into the stomach and thus caused the hydrolysis of the proteins into amino-acids by intestinal protease.

Whether the occurrence of tryptophan in the gastric contents affords an early sign of cancer, I cannot say. Thus far I have not diagnosed a case in its early stages by means of the tryptophan test. I have had several cases, however, in which the first sign of cancer of the stomach was a positive response in the tryptophan test —all other signs failing to give a clear indication. I have lately had an elderly patient (Mrs. O. R.), who suffered from digestive disturbances accompanied by low gastric acidity. Her nutrition and general condition were such as to preclude the diagnosis of carcinoma, and I thought I was dealing with a case of chronic gastritis. The tryptophan reaction, however, was repeatedly positive. Four to five weeks later a tumor appeared in the region of the stomach, which grew very rapidly. The case was then diagnosed by every one who saw the patient as an undoubted case of cancer of the stomach. Operation was proposed, but the patient disappeared from observation.

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[11] This quantity of glycyltryptophan solution is the volume provided by Kalle & Co. (Biebrich am Rhein) for a single test in accord with the directions of Neubauer and Fischer. The volume is usually a little greater, though it is seldom more than 1.5 c.c. The exact concentration of the solution is unknown to me.

[12] This positive result was due undoubtedly to the enzyme which had been introduced into the gastric contents in the saliva *swallowed* by the patient.

[13] This mixture was kept in a thermostat for seven days, but no trace of tryptophan could be detected at any time during that period.

Another experience of mine related to an elderly man (N. F.) who presented himself to my service at the Vanderbilt Clinic with stomach trouble. I obtained several positive tryptophan tests and on the strength of these only, as the other features did not clearly indicate malignancy, I advised an operation. This was refused by the patient, who disappeared from observation. Three months later I traced him to Mount Sinai Hospital. There an exploratory laparatomy was performed and a lymphosarcoma of the middle of the stomach was found and resected.

ANOMALOUS EXPERIENCES WITH THE TRYPTOPHAN TEST

In numerous applications of the tryptophan test I have had anomalous experiences with several cases. The stomach contents of one patient (Case 16 of my original paper), a man of 54 with a suspicious history of carcinoma, gave repeated tryptophan tests in the presence of free hydrochloric acid. The patient felt well afterwards for a couple of months, when I lost track of him for a time. Lately, however, I have had the opportunity of again examining him. He is now in good health and apparently free from cancer of the stomach.

Another anomalous case was that of a middle-aged woman, who had a typical pyloric obstruction, with marked peristaltic movements and gastrectasia. The tryptophan test was repeatedly positive. The patient refused an operation. Four months later she seemed to be somewhat improved, but still had all the stigmata of pyloric obstruction. At that time two tryptophan tests applied to different specimens of gastric contents were negative. This patient is now in the hands of a colleague who thinks that her pyloric obstruction is a benign one, because it shows no signs of further increase. We should not forget, however, that a scirrhous carcinoma is of slow growth and that, with a very small open passage through the pylorus, and lavage, the patient may hold her own for a long time.

Another case of interest in this connection was that of Mrs. L. S., aged 64, who presented a typical history of cancer of the stomach, such as sudden onset of illness of nine months' duration, loss of appetite, considerable loss of flesh and strength, vomiting, and vomiting of coffee grounds. Occult blood was found repeatedly in the stomach contents and feces. An exploratory laparotomy was performed by Dr. A. A. Berg, who failed to find any abdominal lesion. In this case repeated tryptophan tests were negative. Once, however, it was strongly positive, but in that instance the contents had been rendered very faintly alkaline with magnesium oxid, and the resultant proteolysis was undoubtedly due to intestinal protease. It was intended, in this procedure, to enhance, if possible, the action of the cancer enzyme through alkalization, an expedient which, as was found, may possibly lead to error.

Dr. Berg performed a pylorectomy on another patient, Mrs. S., whose history and findings pointed strongly to the diagnosis of cancer of the stomach. Several tryptophan tests were positive. The pathologic report was "inflammatory," and not malignant.

DISADVANTAGES OF THE TRYPTOPHAN TEST

The tryptophan test is inconstant. Tryptophan may appear in the contents from one meal and fail to appear in the contents from the next. This implies inconstancy in the secretion of the carcinoma enzyme, but it does not indicate variability in the reactive tendencies of the reagent in the test. I saw in consultation about three months ago an old lady who had all the stigmata of cancer of the stomach (no palpable tumor, however), and I failed to get a positive tryptophan test in a specimen of stomach contents. Only one test was tried in this case. As a rule, however, several tests of different specimens of gastric contents yield a positive reaction in each case of cancer.

SOURCES OF ERROR IN APPLYING THE TRYPTOPHAN TEST

There appears to be one important source of error in the tryptophan test, and that is regurgitated intestinal fluid. Boas[14] was the first to obtain duodenal contents from the stomach. He massaged the duodenum toward the stomach and obtained a variable quantity of bile-stained fluid through a stomach tube. Later Boldyreff,[15] at the instigation of Pawlow, introduced olive oil into the stomach through a tube and subsequently extracted the contents. Olive oil has the double effect of checking gastric secretion and stimulating pancreatic secretion. It also acts as a lubricant, and back flow of intestinal contents is facilitated. By such means, duodenal contents may be secured. This line of work was taken up by a good many investigators, such as Faubel,[16] Volhard,[17] Molnar,[18] Ohrl and Schittenhelm[19] and their experiences coincide in the fact that some duodenal secretion may be secured in this manner. The observations of Ohrl and Schittenhelm indicate that under ordinary conditions spontaneous regurgitation of intestinal contents into the stomach takes place. In considering, however, the degree to which the tryptophan test may be vitiated by erepsin or trypsin, or both, we must not forget that these enzymes are destroyed by the acid of gastric contents. Moreover, I have repeatedly kept non-cancerous stomach contents, devoid of free hydrochloric acid, in a thermostat at 40 C. for days and even weeks, without obtaining a positive response in the tryptophan test. It is obviously necessary, however, in every serious application of the tryptophan test, to prevent all possible regurgitation of duodenal contents. To prevent this occurrence the stomach contents should be withdrawn gently, and also without any straining on the part of the patient. For this purpose the aspiration method instead of the expression process should be employed. A tube with thin walls and a bore not more than 10 mm. in diameter (30 French) should be selected for the purpose. The patient should be instructed to breathe continuously during the extraction. The manipulation should be conducted by one who is skilled in the work and not by an untrained assistant. By disregarding these rules, by letting the patient press forcibly on the tube until he gets blue in the face, some intestinal regurgitation will probably result and may vitiate the test. Vomitus is not reliable for obvious reasons. If, in spite of all these precautions, one obtains a specimen of stomach contents with a greenish color, and which gives the chemical tests for bile, the specimen should be discarded and another one secured.

Various authors have stated from time to time that occult blood vitiates the glycyltryptophan test. They might also presume that it vitiates the tryptophan test. In my original paper I discussed these improbabilities. I have not ignored the fact that blood contains proteases. I am certain, however, that blood, even when present (in the tryptophan test) in a quantity sufficient to impart a distinct red tinge to the contents, is not able to produce tryptophan in detectable proportion. I have repeatedly studied this matter, from various points of view, and have always obtained negative tests for tryptophan in contents to which moderate amounts of blood had been added—in one case even after incubation of the mixture for seven days. I have also obtained negative tryptophan results in such mixtures of glycyltryptophan and blood, even after incubation for the same length of time. Of course, it is likely that the addition of large quantities of blood would effect hydrolysis of associated protein, but in such cases the tryptophan test could not be carried out, for it would be impossible to discern the characteristic red color resulting from the addition of the bromin.

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[14] Boas: Zentralbl. f. klin. Med., 1889, x, 97.

[15] Boldyreff: Zentralbl. f. Physiol., 1904, xviii, 457; also, Arch. f. d. ges. Physiol., 1908, cxxi, 13.

[16] Faubel: Hofmeister's Beitr. z. Chem. Phys. u. Path., 1907, x, 35.

[17] Volhard: München. med. Wchnschr., 1907, liv, 403.

[18] Molnar: Ztschr. f. klin. Med., 1909, lxvii, 188.

[19] Ohrl and Schittenhelm: Zentralbl. f. ges. Phys. u. Path. d Stoffwechs., 1910, v. 881.

The presence of *free* hydrochloric acid does not necessarily interfere with the test. I have found tryptophan in several instances of carcinoma with high gastric acidities.

TECHNIC OF THE TRYPTOPHAN TEST

The Test Meal.—The ordinary Ewald test breakfast is not suited to the test. This has been shown repeatedly. A simple and effective test meal is a glass of water, hot or cold and very sweet, with some white bread, or toast or biscuits. Milk may also be added. The contents are extracted in about one hour. A regular dinner with extraction after two to four hours, also serves the purpose. Any substance that is likely to impart color to the contents, such as strong tea, coffee, strawberries, tomatoes, etc., should be excluded from the test meal. After their extraction a portion of the contents should be *filtered* and tested directly for tryptophan. If the test is positive, no further treatment is necessary. If the direct test is negative, however, the contents, filtered or unfiltered and without the addition of toluol or other preservative, should be kept in a thermostat for from twenty-four to forty-eight hours, and then tested again for tryptophan. The addition of a preservative appears to be superfluous, for I have shown repeatedly that the bacteria which develop do not produce tryptophan in a detectable proportion.[20] The tryptophan test may often be obtained in positive cases without incubation, by merely keeping the contents at room temperature for from twenty-four to forty-eight hours. Incubation, however, is preferable.

The Test for Tryptophan with Bromin Water.—In completing the tryptophan test, *filtered* stomach contents should be employed. A volume equal to 6 or 7 c.c. is satisfactory for the purpose. This volume in a test-tube is treated with a few drops of a 3 per cent. acetic acid solution and then saturated aqueous solution of bromin is added, drop by drop, from a pipette. The appearance of a reddish-violet or rose-red color shows the presence of tryptophan. If, after the addition of about 4 drops of bromin water, the expected color does not appear, the mixture should be allowed to stand for about fifteen or twenty minutes, when the characteristic color may develop. If, by the end of that time, the rose color fails to show, then more bromin water should be slowly added, drop by drop, until the mixture becomes yellow or until a rose-red color is imparted. If a reddish color is produced, the mixture should be allowed to stand again, when the tinge may grow deeper. Considerable practice is required for the accurate performance of the test in the presence of very minute proportions of tryptophan, because a slight excess of bromin may make the characteristic color indistinguishable. Excess of bromin imparts a lemon-yellow color to the mixture. Whenever the reddish color merges into a yellow we know positively that there is an excess of bromin in the mixture. The opening at the tip of the pipette from which the bromin solution is dropped should be a very small one. The bromin water should invariably be added drop by drop, and the mixture should be well shaken after each addition.

Bromin itself should be handled with great care, for it is extremely irritating to the respiratory mucous membrane. Under no circumstance should plain liquid bromin be mixed with the gastric contents to be tested. An aqueous bromin solution may be kept saturated by retaining in it a slight excess of the heavy liquid bromin.

Acetic acid is added to the mixture to be tested, because the reaction appears at its best in an acid medium. Alkali, by combining with the bromin, prevents the reaction with tryptophan. Almost all stomach contents are acid and in testing them for tryptophan the addition of acetic acid may not be necessary. In mixtures of very low acidity, however, the addition of acetic acid is especially desirable.

I wish, in conclusion, to express my indebtedness to Prof. William J. Gies for the use of his laboratories and suggestions in my work.[21]

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THE TREATMENT OF HEMOPTYSIS IN PULMONARY TUBERCULOSIS *

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Two months ago I read a paper on the treatment of hemoptysis in tuberculosis before the meeting of the Medical Society of the State of California, at Santa Barbara. When I returned from the meeting, I was notified on my arrival in San Francisco that a dozen of my patients were having hemorrhages. The peculiar feature of this fact was that they all started to bleed at about the same time, which can be explained only by changes in atmospheric pressure. A number of these patients bled for only one or two days, and showed no alarming symptoms, but two of them continued to bleed severely, and in spite of all the usually employed means and manipulations the hemorrhages did not stop.

I shall give in detail the history of one of these patients, because this one case will be sufficient to explain the soundness of the method I have used for the last two years in treating severe and dangerous hemorrhages. All other cases are more or less alike, and their description would be only a repetition in slightly varied form.

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[20] I cannot say that this would always be the case, for some bacteria and fungi that I have not thus far encountered may be able to produce *detectable proportions* of tryptophan under the conditions of the test.

[21] The following, together with references numbered 2, 3, 8 and 19, constitute a complete bibliography of the glycyltryptophan and tryptophan tests to the time of writing this paper.
Abderhalden: Ztschr. f. physiol. Chem., 1909, lxii, 136.
Kohlenberger: Deutsch. Arch. f. klin. Med., 1910, xcix, 148.
Lyle and Kober: New York Med. Jour., 1910, xci, 1151.
Kuttner and Pulvermacher: Berl. klin. Wchnschr., 1910, xlvii, 2057.
Ley: Berl. klin. Wchnschr., 1911, xlviii, 119.
Oppenheim: Deutsch. Arch. f. klin. Med., 1910-11, ci, 293.
Pechstein: Berl. klin. Wchnschr., 1911, xlviii, 375.
Hall and Williamson: Lancet, London, 1911, clxxxi, 731.
Neubauer and Fischer: München. med. Wchnschr., 1911, lviii, 674.
Ehrenberg: Berl. klin. Wchnschr., 1911, xlviii, 704.

* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, *at the* Sixty-Second Annual Session, held at Los Angeles, June, 1911.

History.—The patient in question is a young man of 18 years, from Stockholm. He went to Turban's sanatorium in Davos about two and one-half years ago, on account of tuberculosis of the left upper lobe. During his stay there the right lung also became involved, but after nineteen months' treatment he was discharged, as all the symptoms had subsided. He returned to Sweden, then came to California to spend the winter of 1910-11.

Examination.—The patient came to my office in February, 1911. Two weeks before he had caught cold and had had some sputum which was examined, and tubercle bacilli in abundance were found. The evening before he came to my office, he had had a hemorrhage. Examination showed increased resistance over the left upper lobe, with sharp scar breathing. In the back of the left lung, between scapula and vertebræ, there was pronounced crepitation during inhalation and exhalation over an area the size of a dollar. There was harsh bronchovesicular breathing over the right upper and middle lobe, with small and medium sized moist and dry râles. The spot in the right lung had again become active.

Treatment and Course.—The patient went to our sanatorium in Belmont, and during February, March and April he was under the usual treatment. The last examination (April 6) showed no change in the breathing over the left lung. The right lung had improved considerably. There were only a few râles in the second intercostal space. There was sharp breathing in the right upper lobe during inhalation and exhalation, and exhalation was prolonged. The patient had gained from 15 to 20 pounds, and was looking and feeling fine. His temperature was normal; the cough had diminished; there were no night sweats; and the sputum was about one-tenth the amount which he had had on entrance, but there were still from 6 to 8 tubercle bacilli to the field. He was allowed to get up for a little while every day and to take moderate exercise. In the night of April 21 he had a severe hemorrhage, and another the following morning. As he complained of pain in the right lung, my assistant strapped that side tightly. He believed that the hemorrhage came from the right lung, but could not examine the patient at the time on account of the danger of renewed hemorrhage. The patient was given gelatin, calcium chlorid, ice-bags, etc., but that night he had another hemorrhage. The temperature rose to 101.5-102. He was given very slight doses of opiates, just enough to keep the cough under control. We tried to examine him on the morning of April 23; there were medium and large râles over the right as well as over the left lung. It was impossible to find out definitely from which side the hemorrhages came, but we had the impression that it was from the right side. That night he had a hemorrhage, another the following morning, and again the next morning. We examined him again, and again were unable to tell with certainty the spot from which the hemorrhages came. As soon as the boy tried to breathe a little deeper, he would have a hemorrhage. We had an *x*-ray taken by Dr. Freytag, from which it was evident that the right lung was a good deal more involved than the left, and as this harmonized with our findings, and the hemorrhages recurred regularly every twelve or twenty-four hours, we decided to compress the right lung. On the morning of April 27 we produced an artificial pneumothorax on the right side. We let about 600 c.c. of nitrogen run in, and from that moment the hemorrhages stopped. At the second inflation, two days afterward, we found about 2 cm. negative pressure. We again let 600 c.c. of nitrogen run in, which produced about 2 cm. positive pressure. Since that time the patient has been treated in the usual way, the artificial pneumothorax has been kept up, and so far there has not been a particle of blood in the sputum.

This case is in my opinion a most interesting one and teaches us a great deal.

To summarize: A young man, tuberculous for two years, has acute hemorrhages which are not only very intense, but also obstinate. All the usual methods of treatment are without effect; the temperature is gradually going up to 102; the patient is not only frightened to death, but is becoming weaker daily; and the hemorrhages show no tendency to cease. The artificial pneumothorax stops the hemorrhages instantly; the temperature goes down; and the patient begins to improve. (Unfortunately, this patient died of miliary tuberculosis a few days ago, but that has no bearing on the phase of his sickness under discussion.) Besides this case, I have treated seventeen others during the last two years, all with just as severe and obstinately recurring hemorrhages.

It is needless to state that in cases in which there was blood in the sputum only occasionally, or in which there were decided hemorrhages without any serious aspect, or without a tendency to recur too frequently, I have confined myself to the usual old remedies or manipulations, which are too well known to necessitate an enumeration. Only when these different remedies seemed to have no effect, or when the hemoptyses had a serious aspect on account of their intensity, have I used the artificial pneumothorax. I have chosen only such cases, not because I thought that the operation might be harmful in lighter ones, but merely because I did not want to feel, in publishing these first cases, that our old remedies might have done the work just as well.

It is advisable to discuss here to some extent the indications and contra-indications for artificial pneumothorax.

Forlanini himself gives the following as the indications:

1. In uncomplicated cases of one-sided phthisis with slow or subacute course and with free pleura, without regard to the degree of the lesion.
2. In cases in which adhesions exist, if these adhesions can be removed by artificial pneumothorax.
3. In cases of double-sided phthisis which do not show an acute course, and in which the lesions in both sides are not far advanced.

Karewski,[1] in his paper discussing the newer methods of surgical treatment of tuberculosis of the lungs, speaks well of the artificial pneumothorax. He says, however, that it is indicated only when all physical and dietetic means have been exhausted, and that it is absolutely contra-indicated when the other lung is involved. The autopsies of patients who were treated with artificial pneumothorax, but who died in spite of its use, showed that the clinically observed improvements corresponded with the post-mortem findings. In the lung which was artificially compressed were found a large amount of interstitial tissue and indications of scar formation; only a very few fresh tubercles were found, and these contained a surprisingly large amount of dry, cheesy degeneration, showing *in toto* signs of a reparative process. He also found that in the clinical picture of properly selected cases, the weight of the patient increased and the general condition improved considerably; he noticed a decrease in the number of bacilli, and a disappearance of the elastic tissue in the sputum, which itself became less and often disappeared entirely.

I should like to divide the indications for the operation into different groups.

1. Those which might be called safe indications: Severe one-sided involvement, with a healthy other side, and no adhesions, or only fresh ones, on the diseased side.

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[1] Karewski: Ztschr. f. Tuberk., xiv, No. 6, 1909, p. 465-479.

2. Permissible indications: (A) Severe one-sided involvement, with fresh or not too old adhesions on the other side. (B) Severe involvement of one side; slight involvement of the other, not including more than one-third of the lung, and without cavity formation. Involvement of the upper lobe on the better side gives the more encouraging outlook. (C) Severe involvement of one side, with adhesions, and obstinate hemorrhages with or without adhesions.

3. Dubious indications: Severe involvement of one side and cavity formation in the lower lobe of the other lung.

4. Contra-indications: (A) Extensive involvement, with cavity formation in the better side. (B) Thick and firm adhesions all over the side on which the pneumothorax should be made. (C) Severe complications of other organs.

A tuberculous larynx can only be favorably affected by the pneumothorax, as less sputum will pass the larynx.

There are also many cases of diarrhea in tuberculosis, in which this complication is not a result of organic tuberculosis of the intestines, but only represents the attempt of the body to secrete the poisons. The diarrhea can disappear after this secretion of poisons has been removed by artificial pneumothorax.

One of the most important works which has been published on artificial pneumothorax is that of Brauer and Spengler.[2] It gives a report of 102 cases, each case described in detailed, and afterward shortly and exactly discussed.

These men have not confined themselves to the narrow indications given by Karewski or by Forlanini, and their results are surprisingly good. I mention this fact especially, as one might say that the cases of hemoptysis are few in which artificial pneumothorax should be used. This is not true. Naturally, the ideal cases are those in which only one side is affected, and the other side is entirely healthy, but we do not see many of these.

In the great majority of cases the other side is slightly affected, and this fact is no contra-indication. On the contrary, many writers on the subject agree that the slightly affected side shows an improvement while the badly diseased side is compressed. I want to mention again that I am not discussing the pros and cons of the artificial pneumothorax in the treatment of tuberculosis, but only in the treatment of one symptom, i. e., hemoptysis; and that I am especially discussing this method in cases of severe hemorrhages in which all usual remedies have failed. In such cases I should not hesitate to produce an artificial pneumothorax; but—and this is an important point—I should not keep the bleeding side compressed for any length of time if the other side showed a decided progress of the disease. After the first inflation the nitrogen becomes absorbed rather *quickly; usually in twenty-four hours* the pressure, which was positive or neutral just after the operation, is again negative. If the hemorrhages have stopped, and if the general condition of the patient is not good, I should not reinflate. In other words, one must be guided by clinical observation in each case; and if the physician has his eyes open, and notices every change in his patient, there is no real danger connected with this method.

350 Post Street.

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[2] Brauer and Spengler: Klinik der Tuberkulose, xix, 1911, p. 1-335.

CLIMATE IN THE TREATMENT OF PULMONARY TUBERCULOSIS *

W. JARVIS BARLOW, A.B., M.D.
LOS ANGELES

It is to be expected that men who live in health resorts would make some special study of climatic influence on diseases, and through experience of many years reach some definite opinion of the effects due to climate. It is well known that the physicians of the southwest have decided views in favor of climatic treatment with their own special brand, and I make no apologies for being classed as one of them. Space does not permit, nor is it my intention to give explanations and descriptions of the factors, atmospheric conditions, and the principal types of climate, or descriptions of different health resorts; all of which may be read in recent publications under my signature. It would seem better to give the indications and contra-indications for climatic treatment of tuberculosis and to give the classes of cases suitable for this type of climate.

Climatic treatment must deal not alone with the factors or atmospheric conditions of climate, such as temperature, humidity, sunshine, pressure, etc., but also with others quite as important, the non-climatic features, i. e., temperament of the individual, financial resources, stage of the disease, individual characteristics, etc. With these considerations in view, the essential thing in selecting suitable climate is to individualize all cases. Since the search to find specific climate for tuberculosis is *apparently at an end*, we must remember always that the place which has suited one case may be entirely unfit for the next, and that each patient must necessarily be separately studied in connection with the non-climatic features of a place.

All fresh-air and open-air treatment is a part of the climatic treatment and is now being used in each part of the country, in every kind of climate, for all diseases, especially all chronic diseases, so that a change to meet the right conditions for open-air treatment in any climate is sufficient proof of the value of such treatment. No hospital ward to-day is complete without its open-air balcony or adjacent porch, and patients are being placed out of doors in every climate in all but the worst weather. With the proper use of this treatment, pneumonia has lost much of its terror and some eastern physicians using it say they have saved many lives that formerly would have seemed beyond help. It is Nature's way of bringing about benefit or a cure, and, fortunately, the use of it for the cure of tuberculosis has shown us how inexcusably it has been neglected in the treatment of other chronic diseases.

If we acknowledge then, that climatic treatment is a great factor in our care of the tuberculous, is it not reasonable to suppose that the place suited to the individual, where he can obtain the best climatic factors would give better results than his own home where the atmospheric conditions are not so favorable?

What then are the atmospheric conditions of greatest importance? They are:

1. Plenty of air.
2. Percentage of sunshine.
3. Amount of humidity.
4. Temperature with its variations.
5. Pressure of air.
6. Severity of winds, dust, etc.

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

Certainly the pure air and abundance of sunshine must be accepted as a help for every case. With regard to humidity and temperature, whether the climate chosen should be dry or moist, cool or warm, it must depend on the non-climatic factors, or the individual considered. Certainly for the majority of cases that climate which is dry and cool is to be preferred. As to the pressure of air, also, whether the case should be in high, medium or low altitude, depends on other factors than those of climate alone. Careful consideration must be given to the individual, the age, temperament and the stage of the disease. Further, climatic change should not be made until the patient has been under treatment at home sufficiently long to have him understand the details of the open-air cure, the dietetics and hygienic management of tuberculous cases, and until the physician in charge has familiarized himself with the resort selected that the patient may obtain the right accommodations and the best medical care. It is absolute folly to send any patient who needs attention to a climatic resort unless the home physician has assured himself that the patient will have as good medical care as at home. Experience of several years in a health resort has taught me that many lives are sacrificed through this omission, and by rough and improper handling of sensitive, peculiar temperaments, which class of patients are too often set adrift. Unless climatic treatment can be properly carried out, it is far better to keep the patient at home under right management, because it is conceded by all that many tuberculous patients will recover in any climate under the sun.

For a general rule to be specialized with exceptions given later in the paper, I would state that patients with pulmonary tuberculosis developing between the ages of 17 and 40 should be sent to a high, dry altitude. When disease has begun after the age of 40 years, patients should be kept in lower altitudes, in climates more equable and relaxing; some patients show greater improvement near the coast where sunshine and equability are features. Children will do better always at or near the coast in either cold or warm climates.

INDICATIONS AND CONTRA-INDICATIONS FOR HIGH-ALTITUDE TREATMENT

The great mass of tuberculous patients under the age of 40 years, early tuberculosis with or without fever and constitutional symptoms, including patients with hemoptyses, and those with beginning destruction, present indications for high-altitude treatment (3,000 to 7,000 feet). So also do cases with compensated cardiac disease and with no great degree of emphysema.

Contra-indications are presented by acute pneumonic cases with high fever, rapid pulse and respiration, advanced cases with extensive involvement or cavity formation of both lungs, with extensive adhesions and dyspnea, chronic fibroid cases which have a good deal of bronchitis and emphysema, young children and infants, and many patients of a neurasthenic type, or nervous temperament.

In selecting high altitude, limitation in this paper is made to those resorts in the United States with which I am familiar as it will be impossible in this short time to mention all the resorts that are available. Patients demanding high-altitude treatment for the whole year should be sent to the Rocky Mountain region, the chief resorts of which are to be found in Colorado, New Mexico and a few in Arizona. All of these resorts show similar characteristics, Colorado leading in accommodations, care and medical attention, New Mexico being somewhat superior in its climatic advantages. The winters are cold and stimulating, the summers cool and bracing. They have the natural advantages for the treatment of pulmonary tuberculosis; pure air, dryness, abundance of sunshine, altitude, a wide difference of temperature between day and night.

The chief resorts of Colorado are, of course, Denver (altitude 5,200 feet) and Colorado Springs (altitude 6,198 feet), with their outlying districts. No better places than these may be found for the treatment and care of pulmonary tuberculosis, and nowhere else are climatic features that will agree with so many patients. They may be compared favorably with the famous resorts of Switzerland. The chief objections to not a few patients are the sharp diurnal changes and the cold of winter. For such patients my plan has been to recommend the lower elevations of Arizona and California for the winter months and to have the patients return to Colorado for the other six or eight months. As before stated, each case must be separately studied that one may know what influence cold or warm temperature has on the individual. Higher elevations in Colorado, such as Manitou (altitude 6,300 feet), Glenwood Springs (altitude 5,200 feet), and Estes Park (altitude 7,000 feet) are changes that are made for the summer season.

The New Mexico resorts are always to be considered for high altitude treatment, remembering that the winters and summers there are both slightly warmer than in Colorado and for this reason may often be more suitable. The atmosphere is sufficiently dry to make the heat of summer at any of the resorts never uncomfortable or oppressive and the nights are always cool. When more accommodations and comforts are provided, the resorts of New Mexico will be second to none. Santa Fe (altitude 7,013 feet), Las Vegas (altitude 6,500 feet) and Albuquerque (altitude 5,200 feet) are the three resorts in the northern part of the state with a climate not unlike that of Denver. The cold is not quite so great nor the summer temperature so high, with the exception of Las Vegas. Of the three places, Santa Fe has the best summer climate. The principal resort in the southern part of the state is Silver City (altitude 6,000 feet), which has become well known for its climatic advantages and can be safely recommended for high-altitude treatment at any time of the year. The summers are never too hot nor the winters too cold and of all the southwest region it has no superior. Patients who have lost ground at other places have often made surprising gains in this region. Fort Bayard (altitude 6,200 feet) is not far from Silver City and has been chosen by the government as offering the best climatic conditions of our states.

Arizona is limited in its high altitude resorts, only one of which, Prescott (altitude 5,260 feet), can safely be recommended for pulmonary cases. It has all the advantages of the Rocky Mountain region except that the winters are milder and warmer, which may be an advantage. It is well protected from severe wind and dust storms. Flagstaff (altitude 7,000 feet) has perhaps the best all-year-round climate in Arizona, but no provision has yet been made for invalids, though it has every natural advantage.

Southern California has places of high altitude with natural and excellent climatic features in the valleys of the San Jacinto and the San Bernardino Mountains, but these places cannot be recommended, as there is no provision made for the treatment of patients with pulmonary cases. These mountain places, as well as those of the northern part of the state, are more or less well equipped for summer tourists and those who no longer need medical attention.

For medium-altitude treatment (1,000 to 3,000 feet), there are many resorts throughout the east which are available and suitable for the whole year. There are the Adirondack Mountains of New York represented by its many lake resorts so well known that they need no exploitation here. Saranac Lake stands as no other one place for its great representation in the out-door treatment of pulmonary tuberculosis, and no man in the profession is more loved than the one who made this region famous. Besides the Adirondacks, the east has the Catskill Mountains, the White Mountains, resorts of New Hampshire, the Blue Ridge Mountain region of Pennsylvania, and the several resorts of Virginia. In the south, however, none stand so well to-day as Ashville (altitude 2,255 feet), which has gained an enviable reputation. There is no better place for all-year-round residence for those who need this altitude. The air is tonic and stimulating like that of higher elevations. In the west we have only two important places of medium altitude, Phoenix (altitude 1,087 feet) and Tucson (altitude 2,400 feet). I place all the resorts of Southern California in the low altitude group. Both Phoenix and Tucson are suitable only for the winter months, both having distinct advantages for dryness, amount of sunshine and the mildness of the winter climate. Tucson on account of its altitude and more stimulating climate has an advantage over Phoenix, and experience has taught me that Tucson will suit more cases than will Phoenix when climate alone is considered. For those who can exercise and ride about the country, Phoenix will be more agreeable.

Low-altitude resorts are to be found for different months of the year in almost every section of the United States. In the east are the places along the lake region, the Great Lakes, the Thousand Islands, Central Plateau of Massachusetts, the Berkshire Hills, northern New Jersey, etc. In the south are the resorts of North and South Carolina and Georgia including, of course, Aiken, Augusta and Thomasville, each having their advantages for the winter months and all more or less relaxing in type. In the west, we have San Antonio, Texas, (altitude 680 feet), which can be safely recommended for the winter months (December to April). Near the Pacific coast in California a great valley has recently been made comfortable and many find health under these dry, equable conditions. I refer to the Imperial Valley. Banning and Palm Springs, Cal., are similar resorts of a desert type cut off from the humidity and rain storms of the Pacific Coast.

The low-altitude types of Southern California are chiefly situated in the San Gabriel Valley which extends from Redlands (altitude 1,200 feet) to Pasadena (altitude 800 feet). Along this valley are growing towns and outlying districts which have been built up chiefly by health seekers: Redlands, San Bernardino, Riverside, Ontario, Pomona, Duarte, Monrovia, Sierra Madre, Altadena and Pasadena. The best winter climate of this group and the one offering the best accommodations for tuberculous cases is found at Redlands, Riverside, Monrovia and Sierra Madre. Redlands, Riverside and Ontario are too warm in summer for most invalids, but the other places reaching from Monrovia down through Pasadena and to the coast are suitable for all-year-round residence with some hot days in summer when the temperature reaches 100 F., but the relative dryness always saves any great discomfort. Many invalids reside in these localities, especially the tuberculous who need low altitude treatment under equable conditions. Here are found the climatic advantages of pure air, abundance of sunshine, equable temperature and a few hours of dryness each day. Part of the twenty-four hours throughout most of the year in southern California is moist. Fogs are numerous in the spring and summer months for a part of many days, extending many miles over the inland places, usually 30 and often 50, and disappearing earlier the greater the distance from the ocean. The days of summer without these fogs are the hot, dry days; this is especially so for the inland resorts.

The chief charm of southern California is the great amount of sun through the greater part of the year, its equability, the foliage and vegetation, the out-door life possible for everyone and the sedative or relaxing effect produced, a paradise for children and old people and those handicapped by ill health.

People 40 years of age with pulmonary trouble or children with any tuberculous lesion do better in southern California near the coast or in her low altitude resorts than do young adults. The latter class, except those contra-indicated, should be sent to a high, dry altitude where the air is more stimulating and where the cold and changes of temperature usually act favorably.

It is hard to think that anyone should believe that there is no therapeutic value in climate. Dr. Hinsdale in a recent publication has emphasized the value of climatic treatment. He sent a question to the deans of medical colleges in several of our large cities. "What would you do for yourself, climatically, if you were told for the first time that you had incipient pulmonary tuberculosis?" All the answers were in favor of climatic treatment under the direction of a man who understood the disease. If such a question were put to you to-day what would your answer be?

Fifth and Spring Streets.

THE USE OF HYPODERMICS OF CITRATE OF IRON IN THE SECONDARY ANEMIA OF TUBERCULOSIS *

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Some years ago, Dr. B. R. Shurly, of Detroit, urged on me the importance of using citrate of iron hypodermically in the secondary anemia of tuberculosis. Shortly before, it had been his privilege to visit Italy, where he became acquainted with the common practice of Italian physicians of using iron in this manner, and the very great success of the method as applied to almost all secondary anemias.

As all understand, a high altitude is in itself very efficient in the removal of the secondary anemia of tuberculosis, and, therefore, I began the use of iron hypodermically tentatively and only in those cases in which the anemia proved resistant to dietetic, hygienic treatment, plus residence in a high altitude. Thus, it may be seen that I have confined its use to the most unfavorable class of patients, furnishing a most rigid test of the usefulness of the method.

Employing the hemoglobin content as an index of the degree of secondary anemia, as well as an actual erythrocyte count, I found that the hypodermic use of the citrate of iron permitted me to control the anemia with

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

almost mathematical precision, and that it actually in no single instance failed to improve the quality of the blood to at least some degree in the 256 cases in which we had employed it. I would like to emphasize that over 70 per cent. of these cases are in the advanced and far advanced classes, in which the anemia is a commonly manifested phenomenon, and in which we have the right to expect the least from any remedial measure.

I found it to be uniformly successful in raising the hemoglobin standard to normal in all cases in which the patient might be considered to be doing well, or in which the status quo was seemingly maintained; that in most cases it required but thirty or forty consecutive daily doses to accomplish the ideal of such medication, and, as before stated, in no instance whatever did it fail to be efficient, at least in some degree.

As time went on and I became impressed with the scientific exactness of the method, its employment was made a routine procedure in all cases in which there was a reduction of 10 per cent. or more in the hemoglobin content. This was done for the purpose of removing as quickly as possible at least one of the manifestations of tuberculous toxemia, without awaiting the considerably slower restoration of the blood which follows the combination of high altitude and sanatorium treatment. During the past five years there has been a slight improvement in our results in the treatment of all classes of pulmonary invalids. As we have changed our methods in no other particular, I feel safe in attributing the improvement to the hypodermic use of iron.

In a paper before the National Association for the Study and Prevention of Tuberculosis, at the recent Denver meeting, my associate, Dr. L. S. Peters and myself, presented the tabulated statistics of our use of iron. I would refer those interested in the actual facts on which this paper is based, to our joint presentation of the subject before the Denver meeting. Heretofore, I have referred only to the use of citrate of iron in doses of 0.05 gm. for the sole purpose of removing secondary anemia. We, however, in practice employ a number of formulas in which the citrate of iron is combined with metarsenate of soda, strychnin, glycerophosphates, etc., the purpose being to utilize the alterative tonics of demonstrative value. We have not found it necessary to use a larger dose of citrate of iron than .05 gm. Others, who have used larger doses, have observed sudden vomiting to follow its administration.

The technic of the method is to employ the ordinary hypodermic syringe and needle, selecting the buttock as the least inconvenient site of injection, and giving an injection daily until the result is obtained.

Under ordinary conditions, I would not consider it necessary to explain the source of the iron we employ. Having recommended this method to a great many physicians, however, we have received many complaints of marked irritation at the site of injection, sometimes continuing for hours, where in our experience we have never witnessed this phenomenon, and patients complain so little of the subjective sensations following injections that they will often voluntarily request a so-called course of iron for its general tonic effect. On inquiry we have discovered that those instances in which local irritation followed the injection, some of the American preparations of iron had been employed. It seems, therefore, that this paper would be wholly incomplete without mentioning the fact that we obtained these preparations from the Italian pharmaceutical houses, as they have been much more successful in manufacturing preparations free from irritating local effects.

ABSTRACT OF DISCUSSION

ON PAPERS BY DRS. ROTHSCHILD, BARLOW AND BULLOCK

Dr. William C. Voorsanger, San Francisco: Dr. Rothschild has quoted Brauer and Spengler in their report of 102 patients treated by artificial pneumothorax. I have studied their monograph very carefully, and I did not get the impression that their results were uniformly good. In their work they draw no conclusions. They simply give the indications for producing nitrogen compression of the lung, and the results therefrom, some of which were fairly good, but many were negative. They only reported one case of hemoptysis treated in this manner, and this patient died two weeks after the compression had been made. Dr. Rothschild certainly deserves great credit for pioneering artificial pneumothorax in this part of the country, and unquestionably this method should be attempted in those cases in which the hemorrhages cannot be stopped by any other means, and in which the tuberculosis can be with certainty diagnosed as limited to one lung, or in which the case is absolutely hopeless and we must try some therapeutic measure.

I agree with Dr. Barlow in the statements he has made. His remarks concerning the patient living in a climate best adapted to his condition should impress us, but I would go still further and insist that a patient with tuberculosis should remain in the climate where he has received his cure. I have seen patients who have been cured or improved in Arizona or southern California, come back to northern California and break down very rapidly. Only recently I was called to see a patient who had been home one week from southern California, discharged as cured. Although he lived in a very lovely bungalow in the Piedmont hills, and carried out all the instructions he had received in the south, he was taken with a very severe hemoptysis. It lasted five days, and the patient's condition at the present time is none too promising. This is only one illustration of how a patient suddenly changing climate may suffer bad results.

Dr. John W. Foss, Phoenix, Ariz.: Dr. Rothschild's paper is most interesting, yet from personal observation I would advise against placing too much confidence in this proceeding. As a lost resort I would most certainly advise its use after the results described by Dr. Rothschild. I have seen at post mortem a case in which the lung had been compressed with nitrogen gas for some time, yet the hemorrhage which produced death was from the lung so compressed. The length of time of compression may have been a factor in this instance. Dr. Barlow's advice that both physician and patient should familiarize themselves with conditions of life in the open air of the western country is exceedingly valuable. It is the exception to find an eastern physician who understands the conditions to which he sends his patient in the west. Any physician in the southwest would be glad to give his fellow practitioner any information he may wish. Mayor Alexander at the general meeting very forcibly brought out the fact that many patients, particularly tuberculous patients, are sent into the West for the benefit of their health without means and without a knowledge of existing conditions. This is positively cruel, not only to the patient, but it is placing an unreasonable expense on the people of the West. For instance, Maricopa County, Arizona, spends at least $12,000 a year for the care and support of indigent patients sent there by physicians and friends of the patients who do not understand the conditions under which they must live. Every patient should have sufficient resources to be able to expend at least $1,000 yearly for his living and personal expenses. Dr. Barlow states that all tuberculous patients between the ages of 17 and 40 years should go to a high, dry climate. I will agree with him that they should go to a dry climate with a high percentage of sunshine, but I positively disagree with him that they should all go to a high altitude, especially when they can be sent to a dry climate at a moderate altitude. As Dr. Voorsanger says, the patient suffering from tuberculosis should be cured at as nearly as possible the same altitude as that in which he wishes to make his future home. If he wishes to live in a high altitude, then he should go to the mountains, but if he wishes to live at a moderate or low altitude he should go to that resort where he can have the benefit of dry, pure air and a maximum of sunshine. At Phoenix the humidity averages the lowest of any place in this country. It has a high percentage of sunshine; the average wind movement is 4.7 miles per hour for the year; the annual rainfall is only 6.7 inches; the sensible temperature or wet-bulb thermometer rarely goes above 72 degrees in the summer and the altitude is only 1,080 feet. No place in the world presents so nearly an ideal condition for the recovery of the tuberculous patient who wishes to make his future home at a low altitude at the minimum risk of reinfection or relapse.

Dr. James W. Laws, Lincoln, N. M.: Eight or nine years ago I had occasion to use, by means of the Murphy apparatus, nitrogen gas compression of the lung in pulmonary hemorrhage in a number of cases. As with other remedies for pulmonary hemorrhage, in many cases the result seemed marvelous, while in other cases pleuritic adhesions prevented compression of the lung, and where the adhesions were torn loose harm resulted. It is difficult to know from which lung the bleeding comes, but a knowledge of the physical examination and clinical symptoms of the patient before the hemorrhage, along with what can be ascertained at the time of the hemorrhage, usually enables one to form an idea which lung is bleeding and whether compression of the lung is indicated or not. When sufficient vesicular breathing space is left over the other lung, after compression of the bleeding lung, and in cases in which there is reason to believe the bleeding comes from a congested area of recent infection, and in cases in which there are recurrences of bleeding from day to day, sapping the vitality of the patient and not controlled by ordinary measures, I believe that the compression of the bleeding lung by nitrogen gas is a valuable remedy.

Dr. Max Rothschild, San Francisco: Artificial pneumothorax should be used with caution. But it is always possible, if one should inflate the wrong side, to deflate again. It is just as easy to take out gas by means of a bottle with a vacuum as it is to take out fluid after a pleuritic exudation. It has been asserted that the results of Brauer and Spengler are not uniformly favorable. This assertion seems to overlook the fact that many of their cases appeared to be pretty nearly hopeless from the start; and even some of these patients were cured by artificial pneumothorax. If Brauer and Spengler consider the artificial pneumothorax contra-indicated in hemoptysis, I can only say that I do not agree with them. The indication in severe cases of hemoptysis is a most logical one. In Brauer and Spengler's publication of 102 cases, I found only one of hemoptysis, and this was a hopeless case in which the patient died about two weeks after the hemorrhage. As far as I remember, this is the only case in which Brauer or Spengler advocated pneumothorax on account of the hemoptysis, which stopped promptly after the pneumothorax was made. The patient died, not as a result of the pneumothorax, but of the tuberculosis which was far advanced at the time of the operation. Dr. Foss is correct when he says that a hemorrhage from the compressed lung is possible, because it stands to reason that a diseased lung is so tightly adherent to the chest wall that a complete compression is not possible. But if a complete compression is possible, there does not exist any logical reason why a hemorrhage of the lung should not stop just as a bleeding blood-vessel would stop under compression during a surgical operation.

Dr. W. Jarvis Barlow, Los Angeles: Patients should have no climatic change unless they can be put under as good medical attention as at home. The statement is correct that individuals even then should not go unless one is sure to whom one is sending them and what the patient will do. If one is sure that the patient will do as he is told, then he should have climatic treatment. Otherwise they will get into the hands of somebody who will set them adrift, as so often happens here in our southern country. Dr. Voorsanger spoke of the return of the disease if the patient returned to his home. That is true. He should stay until he has immunity or cure and then he is able to live elsewhere. The treatment consists in individualizing the patient. There are patients who gain benefit but not an arrest. I think often patients go away from the place where they have made that arrest too early. In regard to Dr. Foss' criticism of my statement in regard to altitude, I expected that would be challenged. That young people should be in high, dry altitudes, I know is true. Of course they might do well in a climate of low altitude, but many need the stimulating effect of the high altitude. After 40 I do not think altitude is so important.

THE DIETETIC MANAGEMENT OF PELLAGRA

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While the etiology of this malady is by no means settled, most observers agree that in its major manifestations it is a gastro-intestinal disease, and since it is such, curative measures for the irritation of this tract, combined with supportive measures for the upkeep of the body, are of prime importance.

There are some principles in its dietetic management rather differing from that properly accorded to gastro-intestinal disturbances in other disorders, which seem worthy of consideration.

Until the theory is exploded that pellagra is due to some toxic substance in either sound or spoiled corn or corn products, I feel that we are in duty bound to give our patients the benefit of the doubt by excluding such articles from the dietary.

Simply to prohibit this class of foods, without entering into details, is likely to result in misunderstanding with consequent failure. I recently knew of a north Georgia mountaineer, who obediently cut out corn bread and grits, but did not consider it necessary to omit his daily quota of corn whiskey.

Bass, of New Orleans, also reports a female pellagrin who denied ever having eaten corn food of any sort. She had been reared in a section of the country and in a family in which corn was considered good food for horses and hogs, but not for people. It seemed this case was about to disprove the maize theory, when her husband reluctantly admitted that she was in the habit of eating corn starch secretly—a pound or more daily.

That this morbid craving for starch—amylophagia—is not so very uncommon, is shown by the fact that three women, one white and two negroes, observed in the clinic for internal medicine at the Atlanta School of Medicine during the last four months, have acknowledged this habit, though in each instance with evident unwillingness.

Another fact worth mentioning is the adulteration of the cheaper grades of flour with "corn hearts," a custom quite prevalent up to a short time ago. I am informed, however, that, since the pure food laws have been enforced, this adulteration has practically ceased.

Occasionally some case of pellagra is reported, in which there is no apparent evidence that the sufferer has ever eaten any corn products, but I am confident, if the history is thoroughly enough investigated, corn in some form will be found to have entered into the dietary at some time.

Beginning with the earlier gastro-intestinal manifestations, we are generally called on to treat an intermittent and seemingly causeless diarrhea. This early diarrhea I believe to be mainly of central origin, and, to an extent, compensatory. For this reason it is not wise to cut down too greatly the daily amount of food, nor does a very limited dietary seem to exert any marked effect on the disordered bowels.

The patient whose incipient pellagrinous symptoms are recognized is known to be in for a long and taxing siege, and his daily caloric requirements should be guarded most zealously.

The woody vegetables and those yielding a large amount of residue are mechanically contra-indicated at any time diarrhea is present, but care should be exercised that they are replaced by other nourishing articles.

It seems that all along in the course of the disease the flesh proteins are specially well borne, and even in those cases in which there is much active gastro-intestinal irritation, they agree better than in a like amount of irritation from other causes. Tender broiled steak or roast beef may be given once or twice daily, or, if the mouth is too sore to chew, either the scraped beef or that ground in a sausage mill may be given. This also applies to the white meats.

Eggs are generally permissible, though if there is a flatulent tendency, it is well to give only the whites. The albumin of raw eggs may be prepared in various ways, limited only by the ingenuity of the nurse, and I have never known them to set up any trouble.

Sweet milk is valuable when it agrees, but unfortunately many pellagrins show an idiosyncrasy against it. Flatulence frequently follows its ingestion, and in many patients the stomachs furnish enough rennin to coagulate the milk promptly, but are tardy in disintegrating the curds, so there is present a sense of weight and discomfort in the epigastrium. Peptonizing the milk occasionally obviates this, but very few pellagrins relish peptonized milk.

Buttermilk is a most useful article of diet, seldom upsetting the stomach or intestines. It has served me well in so many cases that I can in general recommend it. The artificially soured milk, or lacteal champagne, containing all the fat, is also worth a trial, and is often found highly appetizing.

Where constipation is in evidence, oatmeal, tender vegetables (in puree form), thoroughly baked Irish—not sweet—potatoes, or cereals with but little sugar, will aid the peristalsis of the intestines.

My experience with pellagra has made me chary in the use of alcohol. It would appear that the possible food value of alcohol is more than counterbalanced by its malign effect on the gastro-intestinal mucosa; so, when possible, I omit it entirely from the dietary.

In exceptional cases, when I permit whiskey or brandy, I see that it is well diluted, either as milk punch, eggnog, or with grape juice or lemonade.

Practically the same may be said concerning the alcoholic proprietary food preparations. As an aid to the daily regimen, or to tide over some dietetic emergencies, some of these are useful; but as a dependence to supply bodily caloric requirements, they are a "delusion and a snare." To furnish sufficient calories with these preparations alone would keep the patient in a state of alcoholic coma, plus all the resultant evils reflected on the whole alimentary tract. This is no imaginary picture, I assure my readers; the fact has been impressed on me by some melancholy instances coming under my observation, in which zeal had outstripped discretion, and in which evidences of alcoholic stimulation were thoughtlessly attributed to other causes.

During the whole course of pellagra, the patient should be nourished to the limit of assimilation, and in most instances the gastro-intestinal tract will "stand for" and care for more aliment than when similarly inflamed from other diseases.

The foregoing brief suggestions I trust may be of service, as they are deduced from a considerable number of dietetic experiences in the management of this protean malady; and when the problem of upkeep in pellagra is solved, the outlook for the sufferer is greatly brightened.

920 Candler Building.

IMMUNITY IN TUBERCULOSIS

ITS PRODUCTION IN MONKEYS AND CHILDREN [*]

GERALD BERTRAM WEBB, M.D.
AND
WILLIAM WHITRIDGE WILLIAMS, M.D.
ASSISTED BY A. M. FORSTER, M.D., AND G. BURTON GILBERT, M.D.
COLORADO SPRINGS, COLO.

In former publications[1, 2] we have shown that large numbers of virulent tubercle bacilli may be inoculated into guinea-pigs without producing tuberculosis, provided that very few bacilli are at first inoculated, and that the numbers are increased slowly. In addition, Lieb[3] has shown the possibility of inoculating rabbits with virulent bovine tubercle bacilli in a similar manner.

The work now reported will indicate that monkeys (*Macacus rhesus*), animals which, when kept in captivity are exceedingly vulnerable to tubercle bacilli, can also be safely given increasing amounts of virulent human tubercle bacilli, if inoculated in a manner similar to that in which the animals above referred to were inoculated.

Twelve monkeys (*Macacus rhesus*) were procured and were tested with Old Tuberculin according to Römer's[4] method for cattle. A positive reaction is indicated by at least a 75 per cent. increase in the measurement of the skin-fold.

When we were satisfied that the monkeys were probably not already infected with tuberculosis, we started inoculations with the living virulent human tubercle bacilli, June 8, 1910, and the following plan indicates how each animal was to be treated:

1. Control.
2. 25 bacilli in one dose and no further inoculations.
3. 100 bacilli in one dose and no further inoculations.
4. 200 bacilli in one dose and no further inoculations.
5. Increase slowly, 1, 3, 5, 10, 15, 20 bacilli, etc.
6. Increase slowly.
7. Increase rapidly, 1, 5, 10, 20, 50, 100 bacilli, etc.
8. Increase rapidly.
9. Increase slowly, 5, 10, 15, 20, 25, 30 bacilli, etc.
10. Increase rapidly, 5, 15, 45, 75, 125, 200 bacilli, etc.
11. Control.
12. 50 bacilli at one dose and no further inoculations.

The culture used in the following work was isolated Jan. 19, 1909, by Professor M. A. Barber with the aid of antiformin. The patient, from whom it was isolated, died of pulmonary tuberculosis a few days later.

On account of scarcity of guinea-pigs, we were not able to test the virulence of the culture on guinea-pigs until May 22, 1911. At this time Guinea-pig 1, weight 744 gm., received a subcutaneous inoculation of 35 bacilli; Guinea-pig 2, weight 575 gm., received 75 bacilli; Guinea-pig 3, weight 723 gm., received 125 bacilli.

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[*] A large number of the tables are omitted on account of lack of space, but they are included in the Transactions of the Section and in the authors' reprints, a copy of which will be sent by the authors or by THE JOURNAL, on receipt of a stamped, addressed envelope.

[*] Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[*] From the Laboratory of Cragmor Sanatorium.

1. Webb, Williams and Barber: Immunity Production, etc., Jour. Med. Research, xx, No. 1; Immunity Production, etc., Tr. VI Internat. Cong. of Tuberc.

2. Webb and Williams: Immunity in Tuberculosis, Jour. Med. Research, xxiv, No. 1.

3. Lieb: Immunity Production in Rabbits, etc., Jour. Med. Research, xxii, No. 1.

4. Römer: Ueber intrakutane Tuberculinanwendung, Beitr. z. Klin d. Tuberk., 1909, xii, 182.

All these pigs were killed a few weeks later and found to be infected with active tuberculosis.

After five months had elapsed since the previous tuberculin inoculations, the monkeys were again tested by the Römer method.

Two and a half months later, the weekly living bacilli inoculations still being continued, the Römer test was again applied.

It appeared from these tests that Monkeys 8, 10 and 11 must be infected, having given in their skin-fold measurement a percentage increase of 75 and over. The amount 20 mg. was unusually large and was given by mistake. Monkey 11, a control, was now killed and careful search was made for the presence of tuberculosis. Smears were made from the bronchial, mesenteric and inguinal lymph-glands and stained by the Ziehl-Nielsen and Gram methods. No tubercle bacilli could be found. Portions of the glands were macerated and injected into a guinea-pig, Feb. 10, 1911. This pig was tested intradermally, April 9, 1911, with 20 mg. Old Tuberculin. No reaction.

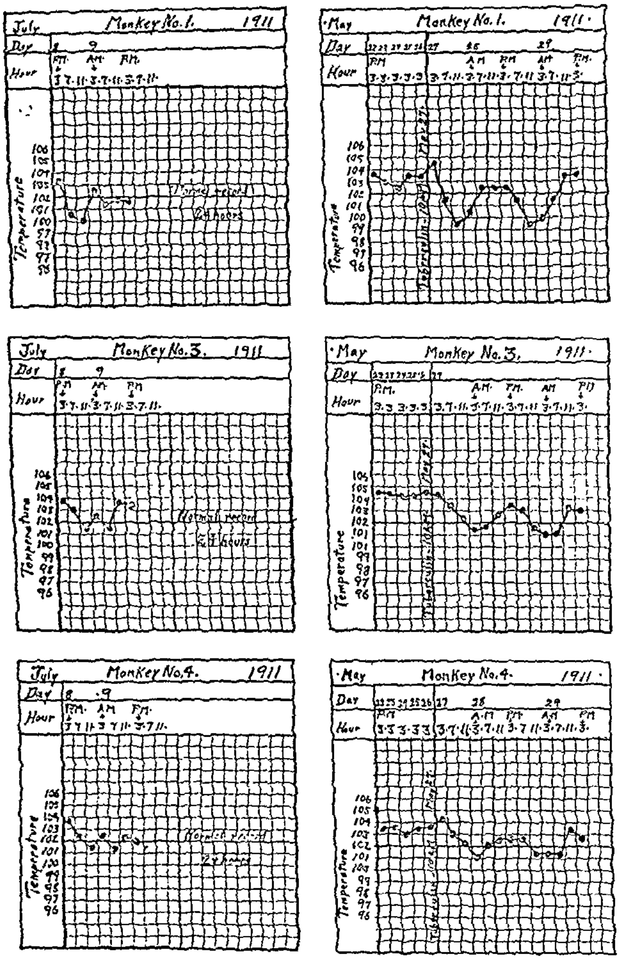

Fig. 1.—Temperature charts for Monkeys 1, 3 and 4.

May 28, 1911, the guinea-pig was killed. Necropsy *showed no evidence of tuberculosis.* From the fact that Monkey 11 was proved to have had no infection with tuberculosis it would seem that the positive intradermal reactions were a result of tuberculoprotein hypersensitiveness. Monkeys 7 and 8 were again tested, May, 1911, with 20 mg. Old Tuberculin intradermally. No reactions followed. The conjunctival test was again applied as follows:

May 25, 1911. One drop of 2 per cent. O. T. (Cutter's) in 9 per cent. sodium chlorid instilled into the right eye of each monkey.

May 26. No change.

May 27. No change.

It was now decided to give the remaining monkeys a subcutaneous injection of 5 mg. Old Tuberculin and to watch the temperatures resulting. The work of White and Fox[5] was carefully followed and the accompanying temperature curves show no increase of temperature following the injection of the tuberculin.

It will be noticed in the table of Monkey 2 that a severe night drop occurred on the second day and the monkey became so ill it was thought he would die. He recovered the next day, but it was decided to kill him and also Monkey 8, which had received such large doses.

TABLE 2.—DATES OF INOCULATIONS AND THE NUMBERS OF BACILLI INOCULATED

Date	Monkeys Nos. 5 and 6 Each No. of bacilli	Monkeys Nos. 7 and 8 Each No. of bacilli	Monkey No. 9 No. of bacilli	Monkey No. 10 No. of bacilli
6/ 8/10	1	1	5	5
6/15/10	3	5	10	15
6/23/10	5	10	15	30
6/30/10	10	20	20	50
7/ 7/10	15	50	25	75
7/14/10	20	125	30	105
7/28/10	30	300	40	150
8/ 4/10	40	450	55	200
8/11/10	50	700	70	250
8/18/10	65	1,000	90	325
9/ 7/10	80	1,500	115	400
9/17/10	100	2,000	140	500
10/ 6/10	125	2,800	175	600
10/15/10	150	4,000	185	700
10/20/10	175	5,500	215	800
10/28/10	200	7,000	250	900
11/ 4/10	225	9,000	300	1,000
11/11/10	250	11,000	350	1,100
11/17/10	275	13,500	400	1,200
11/25/10	300	15,000	450	1,300
12/ 1/10	350	18,000	550	1,500
12/ 8/10	400	21,000	650	1,700
12/15/10	450	25,000	750	2,000
12/22/10	500	30,000	850	2,400
12/29/10	550	35,000	1,000	2,800
1/ 5/11	600	40,000	1,200	3,300
1/12/11	700	50,000	1,500	4,000
1/19/11	800	60,000	1,800	4,800
1/27/11	900	65,000	2,100	5,600
2/ 3/11	1,000		2,400	

The autopsies of these monkeys gave no evidence of tuberculosis. Smears were made from a large number of lymph-nodes and stained by Ziehl-Nielsen and Gram methods. No tubercle bacilli could be found. *Portions of their lungs, lymph-nodes, spleen, liver and kidneys were macerated and injected into guinea-pigs. The guinea-pigs showed no evidence of tuberculous infection at autopsy. Portions of the macerated organs were treated with antiformin, but no tubercle bacilli could be found.*

The feces of each animal were twice examined by the antiformin method for tubercle bacilli; none, however, could be found. The normal night drop of a healthy monkey is well shown in the case of Monkey 1. It will be noticed that some interference with this night drop following the injection of the 5 mg. Old Tuberculin *seems to have occurred in some of the monkeys. This may be due to* the presence of specific antibodies or to tuberculoprotein hypersensitiveness as also the curious effect on Monkey 2 may have been.

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[5] White and Fox: Observations on Monkeys After Injections of Koch's Old Tuberculin, Tr. VI, Internat. Cong. of Tuberc.

Antibodies in the serums of the monkeys were tested for by means of the meiostagmin reaction described by Ascoli[6] and Izar.[7] This reaction depends on the decrease in surface tension which occurs when the specific antibodies in serum unite with the appropriate antigen when incubated together. The surface tension is accurately measured before and after incubation by means of the stalagmometer of Traube.

We prepared the tubercle antigen from the same culture used in the inoculation of the monkeys, following the direction of Izar and Ascoli.

The monkey serum was obtained in large quantities by dissecting out the jugular vein under chloroform anesthesia.

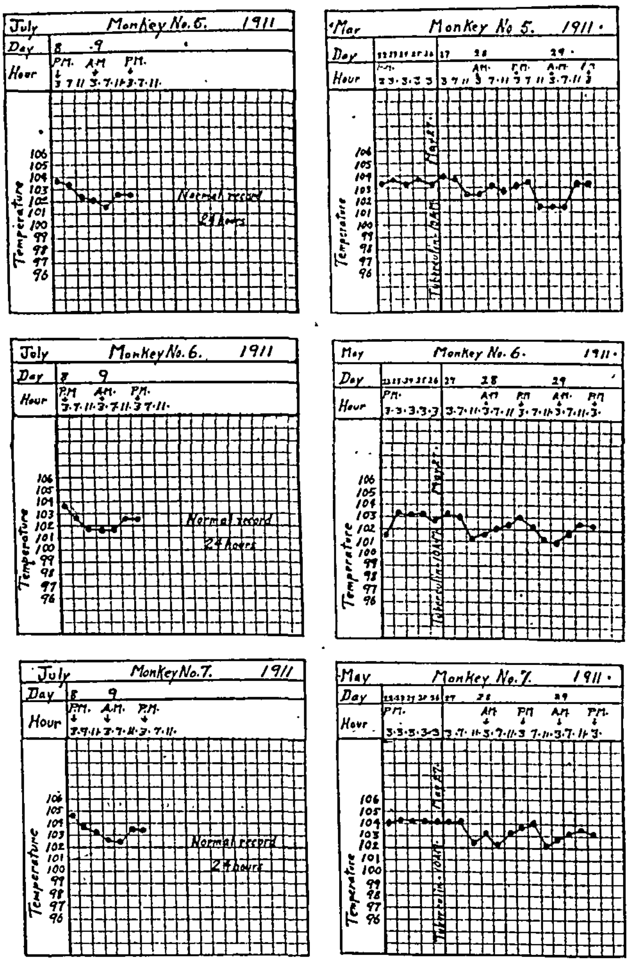

Fig. 2.—Temperature charts for Monkeys 5, 6 and 7.

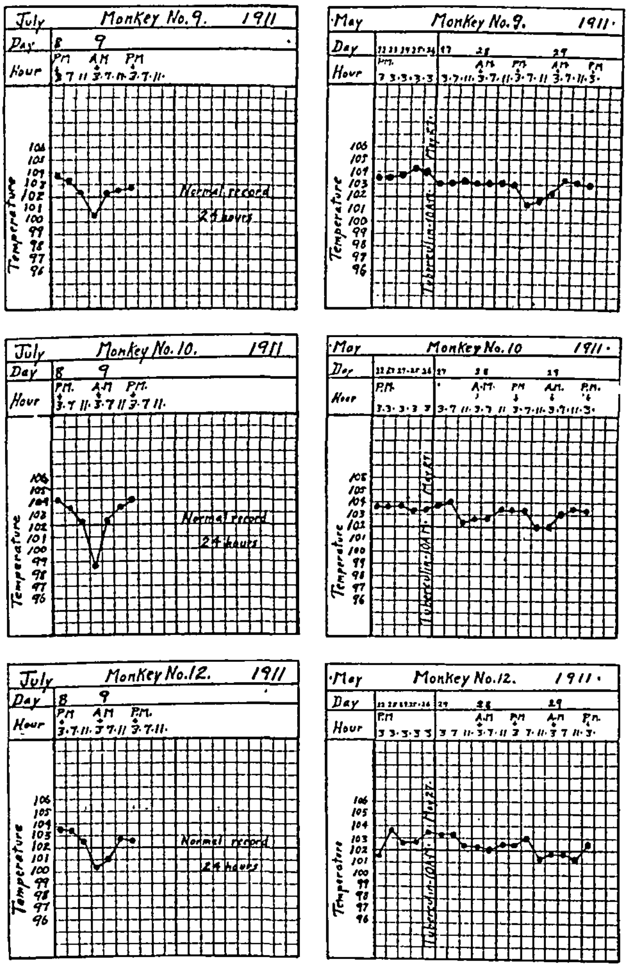

Fig. 3.—Temperature charts for Monkeys 9, 10 and 12.

The serum from Monkey 2 representing an almost normal monkey and the serum from Monkey 8 representing an animal that had received excessively large doses of tubercle bacilli, both gave negative results. The test was applied June, 1911.

Emery's[8] method for measuring quantitatively the specific antibodies in a given serum was also made use of. The test is an application of the Bordet-Gengou phenomenon. When the antibodies combine with the appropriate antigen, complement is extracted and hemolysis prevented. Emery has suggested a means of measuring the time necessary for complete absorption of complement which he terms the absorption time, and he uses it as an index of the amount of antibody present. In general the more antibody present the shorter the absorption time.

For carrying out the test we followed the technic of Emery and used (1) a sterile emulsion of tubercle bacilli in normal saline, from the same culture used in the inoculations; (2) fresh serum collected in a Wright's capsule from the ear of each monkey; (3) an emulsion of sensitized red corpuscles. This consisted of one part washed human corpuscles added to four parts of immune serum. The immune serum was obtained from a rabbit which had been repeatedly injected with well-washed human red corpuscles. The use of the red corpuscles of the monkey for injecting the rabbit would have been better. Our work thus far seems to show that monkey serum has a natural amboceptor for the red corpuscles of some people, so we may avoid the use of rabbits' immune serum in future tests.

Serums from Monkeys 1, 2, 7 and 8 were tested in the manner suggested by Emery and failed to show any complement deviation, the absorption time being prolonged in each instance. The tests were made in June, 1911, after inoculations had ceased.

As yet we have made no attempt to demonstrate other possible antibodies.

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[6] Ascoli: The Meiostagmin Reaction, München. med. Wchnschr., Jan. 11, 1910.

[7] Izar: München. med. Wchnschr., April 19, 1910.

[8] Emery: Immunity Reaction in Diagnosis, Lancet, Feb. 25, 1911.

Differential leukocyte counts were made. The total leukocytes of monkeys per c.mm. average about 15,000. The differential counts were made from blood obtained when the animals were fasting.

We have shown[9] that differential leukocyte counts are of some value in indicating the degree of tubercle infection. It will be seen from Tables 4 to 15 that no evidence of infection can be deduced.

Judged by the high percentage of lymphocytes, and also from their dentition, the monkeys were young animals.

It must be remembered that the high percentage of lymphocytes which persist may be due to the altitude.[9]

Two boys, G. R., aged 3 years, and W. R., aged 3 months, were first tested by means of the von Pirquet skin test and both were found to be negative. The father of these boys died a few weeks later of pulmonary tuberculosis and the mother gave evidence of slight tubercle activity in one lung, accompanied by irregular temperature.

The children were inoculated with bacilli from culture B.[2] as indicated by the following figures:

TABLE 18.—NUMBER OF BACILLI INJECTED

Date	No. bacilli	Date	No. bacilli	Date	No. bacilli
10/20/10......	1	11/23/10.	18	12/29/10......	100
10/27/10...	3	12/ 1/10......	25	1/ 5/11......	125
11/ 3/10......	5	12/ 8/10	35	1/12/11......	150
11/10/10......	8	12/15/10.	50		
11/17/10......	12	12/22/10......	75		

Total number bacilli received by each child, 607.

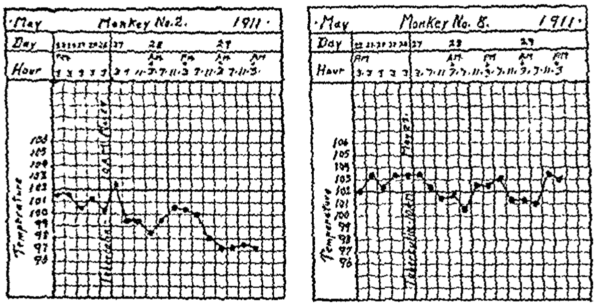

Fig. 4.—Temperature charts for Monkeys 2 and 8.

The children were now again tested by means of the von Pirquet skin test and again the reaction was negative. We realize the intradermal test might have been more thorough, but as our results suggest with this test in monkeys and, as Krause[10] reports, with this test in guinea-pigs that it would seem possible to sensitize to tuberculoprotein, it is perhaps fortunate that we did not employ it. The children have gained weight and are thoroughly healthy to date. May 22, 1911, after four months' freedom from inoculations, the children were again tested and found again to be negative to the von Pirquet reaction.

CONCLUSIONS

1. We have not yet ascertained the exact number of tubercle bacilli of the culture employed which will infect a rhesus monkey.

2. A rhesus monkey, weighing 2,332 gm., withstood infection when injected at one dose with more than six times the dose of human tubercle bacilli which caused tuberculosis in a guinea-pig weighing 744 gm.

3. Two monkeys each received safely virulent human tubercle bacilli enough to kill at least 12,000 full-grown guinea-pigs.

4. No antibodies so far have been satisfactorily demonstrated in the sera of the vaccinated monkeys.

5. The temperature charts indicate the possible presence of such antibodies which might be interfering with the normal night drops following the subcutaneous inoculation of Old Tuberculin for diagnostic purposes.

6. It would appear that it is possible by the intradermal inoculation of Old Tuberculin to sensitize the skin of a monkey to tuberculoprotein.

7. Two children, both of whose parents were tuberculous, have been successfully vaccinated with upwards of 600 virulent human tubercle bacilli, without infection being produced to date.

Our grateful thanks are due J. E. Fuller, A.B., of Colorado College, for a large amount of valuable assistance.

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ABSTRACT OF DISCUSSION

Dr. J. F. Hultgen, Chicago: Some time ago I was able to show that tuberculosis in its three stages has three different kinds of blood-pictures. In the incipient stage of tuberculosis I have found the two curves, i. e., the polynuclears and mononuclears, close together, and even overlapping. In the second, the toxic stage, we have a definite corresponding anatomicpathologic substratum and a definite blood-picture. In the third stage there is mixed infection, and the total white curve rises with the advance of the disease. Dr. Webb has succeeded in immunizing two persons, who have kept their immunity for months. I think this immunity may extend even further, for this reason: All diseases followed by long immunity have a negative phase lasting a long time; at least that is true in the typhoid fevers. Why those diseases which are followed by long immunity should show this blood-cell production I do not know. Andrews of London has done some work in that direction. He believes that the incubation of typhoid infections is nothing but the extended negative phase of leukopoiesis with the polynuclears screened within the lung capillaries. That, however, has not been confirmed. Dr. Webb is on the right road and immunity from tuberculosis in animals, and presumably in the human, is not only possible but likely. I think he has taken the first step toward establishing a ground on which can be based the immunity from tuberculosis, which kills so few and makes so many sick; whose mortality is so small, and whose morbidity is so great. If a patient dies with tuberculosis, that is not saying that he dies of tuberculosis. As to whether he is in possession of a tuberculous infection is for us to decide, and I think Dr. Webb has made this easy.

Dr. Roy E. Thomas, Phoenix, Ariz.: Dr. Webb says the mononuclears in his monkeys averaged about 70 per cent., and this increase he thought possibly was due to the altitude. Dr. Watkins of Phoenix has recently made some experiments which show that we have there in normal individuals a percentage of leukocytes higher than they have in Colorado Springs. I think that altitude might perhaps fail to explain the high percentage of mononuclears in monkeys at Colorado Springs. Dr. Webb did not infect any of his monkeys. May it not be possible that all of his monkeys were already immune to tuberculosis?

Dr. E. R. Le Count, Chicago: I am reminded by this report of instances in which tuberculosis apparently finds its chief soil in the bones, instances of generalized miliary tuberculosis, with fever and enlarged spleen and outbreaks of tuberculous osteomyelitis in different bones. In some such cases the patient's general health suffers but little and there is an apparent immunity on the part of tissues other than the bones. I do not make this comment to hint at the possibility of bone tuberculosis in the monkeys Dr. Webb examined, but to call attention to the habit, so to speak, that the bacillus has formed in such cases, of growing in bones. The other viewpoint I have already stated in suggesting an immunity for other parts of the body than bones.

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[9] Webb and Williams: Some Hæmatological Studies in Tuberculosis, Tr. Nat. Assn. for the Study and Prevention of Tuberc., 5th annual.

[10] Krause: Hypersusceptibility to Tuberculo-protein, Jour. Med. Research, xxiv, No. 2.

Dr. M. P. Ravenel, Madison, Wis.: I had the pleasure of seeing these monkeys and of going over the work with Drs. Webb and Wilson. I am proud of the fact that America can claim credit for the bulk of the work done in the immunization of tuberculosis. While Dr. Webb was not born in this country, he has become an American citizen and it looks as if we were going to get at the root of the matter in America. There are two things in this work which are of interest to me: one is the lack of antibodies, or at least inability to demonstrate them. If we know anything about immunity it is that it depends on the production of antibodies. That is not true always but, generally speaking, we must believe that immunity is due to the production of antibodies. The second point of interest to me is the infection of human beings. We know Behring's theory, that human beings are inoculated with bovine tuberculosis in early life; and Calmette's idea, that those of us who retain our immunity to tuberculosis are those who have had a single large dose, not sufficient to overcome the organism, or repeated small doses so spaced as to allow complete recovery between doses; that those who remain healthy have been vaccinated and have become immune. The question comes up, how much of a dose must a person take to be overcome by tuberculosis? I hope Dr. Webb will further explain the lack of the antibodies.

Dr. Gerald B. Webb, Colorado Springs, Colo.: I take it that the question of altitude would come in in regard to the increased lymphocytes found by Dr. Thomas at Phoenix, for we have found even an altitude of 800 feet gives higher lymphocyte counts than does sea level. I am grateful to Dr. Le Count for mentioning the possible bone infection. It is most important and we will pay more attention to this possibility in the monkeys. I do not believe any tuberculous lesions are present in them anywhere to date. We realize how healthy and vigorous they are when we have to catch them. Replying to Dr. Ravenel's questions concerning antibodies: We have so far failed to demonstrate them unless the interference in the night drop of some of the monkeys following the tuberculin test indicates their presence. In a patient who gets well naturally from diphtheria or even tetanus, antibodies cannot be found in the blood. Antibodies are probably a second line of defense, whereas our inoculations have probably only increased the first line, or the physiologic defense. Our monkeys are now in their second season. They have been kept in small cages in a small room but with the windows open. This room is used for boot-cleaning. Upwards of fifty tuberculous invalids have been in the room at different times and part of the time the monkeys were cared for by a man with advanced pulmonary tuberculosis. As the charts indicate, the lymphocytes of these monkeys still remain high in spite of the monkeys becoming older. This is no doubt the result of the altitude as we have shown to be the case in other animals. As the lymphocyte is considered the natural antagonist of the tubercle bacillus, our work of inoculation with live bacilli has been done under the most favorable conditions on account of the increased numbers of these cells present at this altitude.

The Subhyoid Tug.—Dr. M. L. Graves, Galveston, Texas, writes: The tracheal tugging is often a pronounced and important sign in thoracic aneurysm. It is, however, not so important in recent years, since radiography and other exact methods enable us to diagnose tumors of the chest at an earlier stage and with considerable accuracy. I have observed in a number of patients with thoracic aneurysm with short, thick necks, considerable difficulty in grasping the cricoid cartilage so as to elicit this sign. This is true also in patients with unusual prominence and sternal approach of the sternomastoid muscles, and in some fat necks. Under such circumstances it is comparatively easy to grasp the body of the hyoid bone at its outer and inferior borders and push it up a little and elicit a distinct tug. It is not so strong usually as the cricoid tugging, but is distinct sometimes when the latter is unavailable. It might be designated as the subhyoid tug.

EFFECTS OF HYPODERMIC INJECTION ON THE SECONDARY ANEMIA OF CHRONIC PULMONARY TUBERCULOSIS *

W. JARVIS BARLOW, A.B., M.D.
AND
ROBERT L. CUNNINGHAM, A.B., M.D.
LOS ANGELES

For several years iron preparations have been used hypodermatically in the treatment of secondary, and arsenic in the treatment of pernicious, anemia. In 1908 Peters[1] reported favorable results after two years' use of iron citrate hypodermatically in the treatment of secondary anemia of tuberculosis, employing a number of formulas of different combinations.

Later Morse[2] reported satisfactory results even in severe cases with citrate of iron subcutaneously in the treatment of anemia in infancy. He found the rise in the percentage of hemoglobin was more rapid than that in the number of red blood-corpuscles.

Dickinson,[3] on hypodermic treatment of anemia, says where medicinal preparations fail, when the anemia cannot be relieved, and where digestion is markedly embarrassed by medication, the hypodermic use of iron must be resorted to. Each of these authors speaks of the pain caused at the site of injection.

Of the beneficial effects of arsenic preparations hypodermatically, much has been published in recent years. It is to consider chiefly the use of organic preparations of arsenic in secondary anemia that this paper is written. Our attention was first called to this treatment one and one-half years ago by Dr. Bullock, at Silver City, who showed some results that seemed most favorable and asked one of us (Barlow) to try its effects here.

CASES

Twenty-eight patients were treated, thirteen of whom were in Stage II and fifteen in Stage III.

Many of the first twenty patients had shown little if any improvement on the regular hygienic-dietetic treatment. Some had lost in weight, some had been for a considerable time stationary in weight, and some had gained slowly, though still below their average weight in health. No early case was taken for the reason that such have, without exception, recovered under the routine treatment, or without special agents. It was desired to test the treatment on individuals for whom the routine treatment seemed insufficient. Some of the first twenty cases were looked on as hopeless (2, 8, 14 and 19), and others as capable of nothing more than improvement or arrest (1, 10, 13, 15, 16, 17, 18). In five cases, in Stage II, the prognosis was "fairly good," or "good" (3, 4, 5, 7 and 11); one, in Stage III, was a case of tuberculosis of the larynx, which had healed during tuberculin treatment and absolute rest for the voice for eight months. In this case, the weight had gone down under the higher doses of tuberculin (B.F.), although no febrile reaction was noted at any time, and the low weight was the special indication for the treatment here discussed.

In the second group of eight cases, three were in Stage III, and five were in Stage II, altogether a more favorable class of cases, although one was far advanced (25), and four (21, 24, 25, 28) were capable of nothing more

than arrest or improvement of the disease. In one case, treatment was abandoned after one month because of the complaints of a neurotic patient, and because the injection was followed by such severe reaction at the site of injection, ecchymosis, swelling, tenderness, local fever, etc. This case is not included in the number under discussion.

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* One large table is omitted because of lack of space, but it is included in the Transactions and in the authors' reprints.

* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Peters, Leroy S.: Med. Rec., Oct. 10, 1908.

[2] Morse, John Lovett: The Journal A. M. A., July 10, 1909, p. 107.

[3] Dickinson, G. K.: Med. Rec., Sept. 3, 1910.

PREPARATIONS USED FOR INJECTIONS

Early in our experience three patients received Italian preparations, e.g., citrate of iron with strychnin, or metarsenate of iron, etc. As these individuals received the domestic preparations over a much longer period of time, we shall not complicate the report by unnecessary details but shall report on the three principal preparations used: (1) iron cacodylate, (2) sodium cacodylate, and (3) arsacetin.

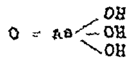
1. *Cacodylate of Iron.*—This is said to be iron in combination with cacodylic acid, $(CH_3)_2AsOOH$, and therefore an organic form of iron and arsenic. "Those organic arsenic combinations in which the metallic atom is directly attached to the carbon are only feebly poisonous, but in time seem to be changed to arsenious acid in the tissues and may then cause typical poisoning." (Cushny[4]). The combination used is put up in sterile ampules of glass, each holding 1 c.c. of the solution, which is a dose of 0.03 gm., i. e., 30 mg. The solution is of a reddish color, clear and transparent, keeps well without sedimentation or deterioration. When injected beneath the skin or into a muscle, it causes a sharp stabbing pain which passes away, usually within a few minutes, but which has been seen to persist for twelve to eighteen hours. Occasionally, discoloration of the skin, as from ecchymosis, is observed for as long as ten days, either with or without continued pain and tenderness in the part. In one case we discontinued the treatment on account of the intensity of the reaction, the patient being neurotic and reluctant to continue. In nearly all cases there is some induration at the site of injection, although it usually passes away within two days and is not commonly painful.

2. *Sodium Cacodylate.*—This contains sodium in combination with cacodylic acid. It is put up in the same sterile ampules as is the iron. It is a clear, colorless, watery solution, and the single dose is 1 c.c., which, in the strength used here, contains 0.05 gm., i. e., 50 mg. This solution also keeps well without clouding or depositing sediment. When injected beneath the skin or into a muscle it causes only slight discomfort or none at all, and we have seen no induration, ecchymosis or continued pain follow its use. When given twice a week, the same site for all injections may be employed if desired.

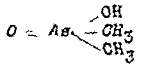
3. *Arsacetin.*—This is an acetyl derivative of atoxyl and is said to be much less toxic and much more stable than that more familiar drug. Atoxyl is $C_6H_5NHAsO_2$ and contains 37 per cent. of arsenic. Arsacetin is also put up in sterile ampules, each containing 2 c.c. of a 10 per cent. solution which is a dose of 0.2 gm., i. e., 200 mg. When sterilized in dilute solution it does not cloud and keeps better than when in more concentrated form.

Of each drug a single dose is contained in an ampule and the preparation is sterile and ready for use. A needle 1 to 1¼ inches in length and of small caliber, with a glass syringe of the required capacity (1-2 c.c.), is boiled and after the skin is cleansed with 95 per cent. alcohol, and the solution drawn into the syringe from the broken end of the ampule, the solution is injected deep into some muscle easily reached. We have most commonly used the deltoid muscle. Injections into the gluteal muscle would cause less pain, but the deltoid is very much more readily accessible and the pain is so slight that the patients prefer the more convenient location and offer little or no objection to the discomfort which accompanies it. So far, we have seen no abscess, and with even reasonable care none should occur. Occasionally, we have injected the various drugs just under the skin, but the intramuscular administration seems preferable on account of better absorption. Two injections a week have been given as routine; more frequent administration could doubtless be employed.

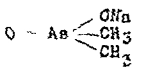
(1) Arsenic acid



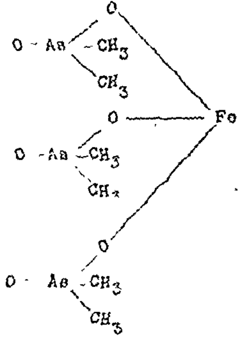
(2) Cacodylic acid (Dimethyl arsenic acid)



(3) Sodium cacodylate (Dimethyl sodium arsenate)



(4) Iron(ferric) cacodylate (Dimethyl ferric arsenate)



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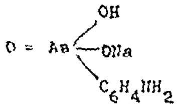

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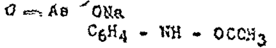

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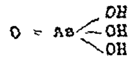

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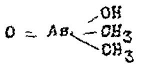

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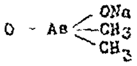

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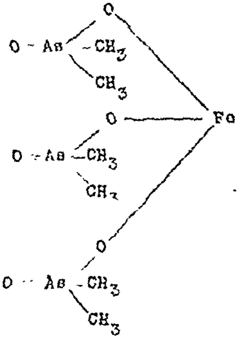

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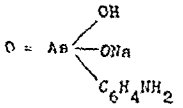

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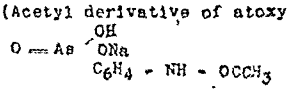

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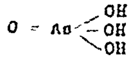

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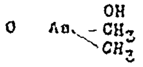

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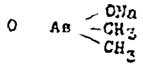

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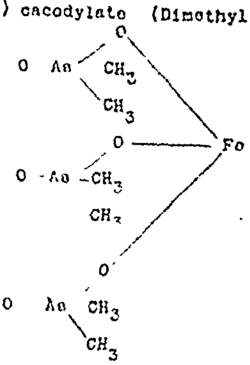

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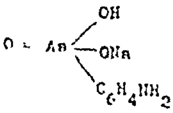

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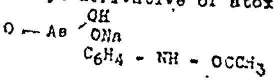

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CHOICE OF PREPARATION AND DOSAGE

The choice of the drug to be used will depend on the object in view. We would state our preferences thus:

Iron cacodylate is to be preferred:

1. When the hemoglobin content of the blood is relatively low, i. e., when the color-index is very low, say below 0.8. The dose of 0.03 gm. may be given twice or three times a week, changing the site of injection each time. There is apparently more direct stimulating effect derived from the iron solution than from the others.
2. When the patient is not neurotic and will not object to the pain accompanying the administration of the solution.

Sodium cacodylate is to be preferred:

1. When there is any suspicion of syphilis. In such cases we would use 1 c.c. of the 13 per cent. solution (0.13 gm.) three times a week, or at least twice a week.
2. When a painless solution is particularly desired. In such cases we would use 1 c.c. of the 5 per cent. solution (0.05 gm.) twice a week, as being safer than the stronger solution.
3. When there is some degree of secondary anemia, but with a color-index fairly high, as above 0.8.

Arsacetin is to be preferred:

1. When it is to be combined with tuberculin treatment.
2. When sodium cacodylate is not well tolerated.

In all cases we would use 2 c.c. of a 10 per cent. solution (0.2 gm.) and give that amount twice or three times a week, or even daily if it is desired.

CONTRA-INDICATIONS

Although we have seen no harmful effect from the use of these drugs as described, we have avoided administration of them in certain cases:

1. During hemorrhage from the lungs. We have waited at least one week after the sputum has cleared up before resuming injections.
2. During the so-called "asthmatic" attacks of the patients with a great deal of chronic bronchitis and emphysema, fearing to irritate the mucous membranes during such seizures.
3. In all cases in which there was marked albuminuria and cylindruria.
4. Where there has been marked interference with the circulation.

COMPARISON WITH PATIENTS NOT SO TREATED

The question arises: Have we done for these patients more than we could reasonably hope to accomplish for them by the use of the unassisted form of hygienic-dietetic treatment? If we have made the recovery of the later patients (Stages II and III) more probable, more rapid and more comfortable, then the special therapy has been useful. In order to get some light on this question, we have chosen from our records an equal number of similar patients (Stage II, 13, and Stage III, 15), and have studied the condition of their blood and of their weight in the same way as that followed for the others, though reported in briefer form.

The maximum weight gained by one individual, who was not given either iron or arsenic, was 45.75 pounds in a period of twelve months' residence in the sanatorium. The maximum loss of weight in the untreated group was 16 pounds in a period of eighteen months' residence. Both loss and gain, therefore, are in the excess of the loss and gain seen in patients under treatment by injections. Those patients who are treated seem less liable to go far beyond their previous average weight in health, and less liable to lose rapidly and extensively during the course of their illness. More detailed comparison of the separate items will be found in the following tabulated weights:

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Second month	28	5	1.60	22	2.96	1	.	.
Third month	28	3	0.50	22	2.27	3	.	.
Fourth month	27	8	1.65	16	2.69	2	1	1
End of residence	28	10	7.62	18	12.87	.	.	.

* Average residence 10.95 months.
† Average residence 14.47 months.

THE BLOOD IN TWENTY-EIGHT PATIENTS TREATED WITHOUT IRON OR ARSENIC

For the purpose of this discussion we shall take only the first blood-examination made after admission and the last before discharge. The entire twenty-eight cases are included. The general statements as to the type of anemia are true in all essential particulars when applied to this group, as well as when applied to the group treated. Being the same class of patients, i. e., in the same clinical condition, naturally the blood is about the same. On admission the lowest count (Case 24) was 3,190,000, with a reading of hemoglobin at 60 per cent., which gives a color-index of 0.96, a little higher than usual. The highest count on admission was 5,860,000, in which blood the hemoglobin was estimated at 75 per cent., a color-index of 0.64. The average count of the red cells for these patients on admission was 4,753,000, with an average hemoglobin content of 76.43 per cent., giving an average color-index of 0.81. On discharge the average red count was 4,641,071, with an average hemoglobin content of 79.5 per cent., giving a color-index of

TABLE 3.—TWO GROUPS COMPARED AS TO WEIGHT

	Gained				Lost				No. Not Weighed		No. Dropped		Weighed Same	
	No. Treated	Average (lbs.)	Number Not Treated	Average (lbs.)	No. Treated	Average (lbs.)	Number Not Treated	Average (lbs.)	Treated	Not Treated	Treated	Not Treated	Treated	Not Treated
First month	20	3.31	19	4.18	7	1.93	9	4.0	1	.	.	.	.	.
Second month	14	2.50	22	2.96	8	1.84	5	1.60	2	.	2	.	2	1
Third month	14	2.69	22	2.27	4	1.18	3	0.50	2	.	7	.	1	3
Fourth month	8	2.06	16	2.69	5	1.45	8	1.65	2	1	13	1	.	2
End of residence	17	6.37	18	12.87	9	2.50	10	7.62	2	.	.	.	.	.

During the third month, twenty-one were treated; two were not weighed, four lost with an average loss of 1.18 pounds, and fourteen gained with an average gain of 2.69 pounds. In the fourth month, fifteen patients were treated; two were not weighed, five lost weight (average loss, 1.45 pounds), and eight gained (average gain, 2.06 pounds). A number were continued on treatment for a longer period, some as long as nine months, so that all are collected under one head as "at end of treatment," where a review of weight records for the twenty-six on whom we have such records show that nine lost in weight, with an average loss of 2.50 pounds, while seventeen gained in weight, with an average gain of 6.37 pounds. We emphasize that this is a good record for a class of patients all of whom are moderately or far advanced (Stage II or III—Turban). In all early cases the patients gain in weight without special treatment, a statement to which there is hardly an exception in the experience of this sanatorium.

TABLE 1.—EFFECTS OF TREATMENT ON WEIGHT *

	Number of Patients	Number Who Lost	Average Loss (lbs.)	Number Who Gained	Average Gain (lbs.)	No. Who Did Not Change	Number Not Weighed	Number Dropped
Before treatment	28	9	3.61	18	4.36	1	.	.
First month of treatment.	28	7	1.93	20	3.31	.	1	.
Second month of treatment	26	8	1.84	14	2.50	2	2	2
Third month of treatment.	21	4	1.18	14	2.69	1	2	7
Fourth month of treatment	15	5	1.45	8	2.06	.	2	13
End of treatment........	28	9	2.50	17	6.37	.	2	.

* Maximum gain for one patient under treatment, 25 pounds (Case 20); treated eight months. Maximum loss for one patient under treatment, 5.75 pounds (Case 14); treated eight weeks.

The two patients "not weighed" were both far advanced and were confined to bed for months before death and both became extremely emaciated, although we had no means of getting exact records of weight for either patient. One (Case 2) had not only pulmonary disease but also involvement of the larynx, middle ear and small gut. The other patient was a young girl (Case 8) who had a slowly progressive caseous pneumonia and tuberculosis of the bowel (appendix and colon) who was kept in bed for more than eight months before her death.

The greatest gain in weight occurred in a patient who received the sodium cacodylate treatment (Case 20), while the greatest loss occurred in one who received the iron. The comparison is not a fair one, however, since the last patient had an enteritis of tuberculous origin.

		Iron cacodylate	Sod. cacodylate	Arsacetin
Gained in weight.............	17	7	5	5
Lost in weight...............	9	4	4	1
	—	—	—	—
Treated period. Weights record.	26	11	9	6

EFFECTS OF TREATMENT ON THE STRENGTH, ETC.

We have no numerical system that will adequately express the results in this matter of strength. Impressions and the personal statement of patients must be cited for what they are worth. Almost without exception, the patients treated say they "feel better" and stronger while under treatment than they did before. Several have asked to be put on injections a second time, simply because they felt stronger while taking these drugs, although the condition of their blood has not demanded a second course. In no case have we noted any effect of poisoning such as is seen in arsenical treatment at times.

We do not believe there has been any direct effect on the temperature of patients from the drug injected, at least none directly attributable to the drug. One patient (Case 10) had continued for several months to show an elevation of temperature to about 99.5 F. each evening, and had suffered from a persistent diarrhea for nearly three months before he began to get sodium cacodylate. After he had received this drug for three weeks, he began to have occasional days when the temperature did not rise as before in the afternoon, and the diarrhea left him and has not returned, though that was nine months ago. In the great majority of our cases no demonstrable change has been observed, although a slight gradual decline in the evening elevation is seen in many cases, such as ordinarily occurs in a favorable individual who has been under sanatorium treatment a few weeks. Certainly, fever is not a contra-indication to this form of therapy.

In so far as the pulse is concerned, we have seen only such changes as are to be attributed to changes in the general condition of the patient. We have seen all of the same changes occur in similar cases who have had no such injections.

The examination of the sputum of our patients has not shown us any ground to believe in the sterilizing action or bactericidal power of either arsenic or iron, or a combination of the two, in the form or dosage here employed. The number of tubercle bacilli in the sputum of our patients showed no alteration other than we could expect from our past experience with untreated cases.

In some cases the patients have claimed to have an increased appetite and improved digestion after beginning the treatment. The fact that such claims have followed the first dose or the first two doses is in favor of an influence largely or purely psychic. We can say, on the other hand, that we have seen no digestive disturbance which we could attribute to the treatment by arsenic or by iron hypodermatically. This is not true of arsenic given in the form of Fowler's solution.

Two patients were suffering from troublesome skin lesions, eczematous in nature. These promptly and thoroughly cleared up after the arsenical preparations had been used but two or three weeks. The result was but incidental to the general treatment.

SPECIAL INDICATIONS FOR ARSENIC OR IRON

In our experience of the past year, we have come to look on certain conditions as being indications for the use of these drugs hypodermatically:

1. When the body weight is below that which has been the average for the patient in previous good health.
2. When the blood shows an anemia, especially when the hemoglobin content is low. We see no reason for believing that the iron is superior to arsenic here, at least none other than the accepted theoretical grounds.
3. When the general strength is subnormal. Here we consider that the drugs act as "alteratives."
4. When, after the usual hygienic-dietetic treatment, improvement is slow or at a standstill.
5. Following a course of tuberculin, when the weight has fallen off, as it so commonly does with the increasing doses.
6. When some psychic stimulus is needed.
7. When there is reason to suspect the presence of syphilis. Here the cacodylate of sodium is to be preferred.

CHOICE OF PREPARATION AND DOSAGE

The choice of the drug to be used will depend on the object in view. We would state our preferences thus:

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1. When the hemoglobin content of the blood is relatively low, i. e., when the color-index is very low, say below 0.8. The dose of 0.03 gm. may be given twice or three times a week, changing the site of injection each time. There is apparently more direct stimulating effect derived from the iron solution than from the others.
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End of residence	17	6.37	18	12.87	9	2.50	10	7.62	2	.	.	.	.	.

0.85. Of the twenty-eight cases, fifteen showed an increase in the number of red cells, the average increase for the fifteen being 445,466; thirteen showed a decrease in red cells, the average decrease being 494,615. Comparing the counts on admission with those on discharge, for the twenty-eight we find that in spite of the fact that the number which gained is greater than the number which lost, there is a general average loss of 111,929. This is due to the fact that the individual losses were greater than the individual gains, for the maximum loss was 1,760,000, while the maximum gain was but 970,000 cells.

TABLE 4.—COMPARATIVE VIEW OF HEMOGLOBIN AND RED CELLS

	Average of Red Cells	Average Hemoglobin (per cent.)
On admission—		
Treated	4,904,428	81
Not treated	4,753,000	76.43
On discharge—		
Treated	5,346,000	88.54
Not treated	4,641,071	79.5
Average gain—		
Treated	542,712 (20)	8.46 (24)
Not treated	445,466 (16)	11.66 (12)
Average loss—		
Treated	319,000 (5)	2.5 (2)
Not treated	494,615 (13)	7.14 (7)

TABLE 5.—COMPARATIVE VIEW OF CLINICAL RESULTS

	Treated 28		Untreated 28		Seventh Report 65		Sixth Report 66	
	No	%	No.	%	No.	%	No.	%
Apparently cured	6	21.4	1	3.57	7	10.77	2	3
Disease arrested	10	35.7	5	17.85	5	7.69	8	12.1
Improved	6	21.4	11	39.28	26	40	28	42.4
Progressed	2	7.1	6	21.43	10	15.38	16	24.2
Died	4	14.3	5	17.85	5	7.69	5	7.6
Not treated (ann. rep.)	..	....	..	.....	12	18.46	7	10.3

With the hemoglobin the result is somewhat different. On admission the average hemoglobin was 76.43 per cent., and on discharge, 79.5 per cent., showing an average gain for the twenty-eight of 3.07 per cent. hemoglobin. There were twelve cases showing gains, averaging 11.66 per cent., and seven cases showing a loss of hemoglobin averaging 7.14 per cent., and nine cases in which the hemoglobin content remained unchanged.

In the leukocytes the lowest count was 5,400, and the highest count was 19,900. The counts here correspond exactly with the statements made elsewhere regarding the significance of leukocytosis, and in respect to the type of cells which are actually and relatively increased in number.

On reviewing the results of these control cases, the clinical evidence in favor of the treatment is stronger and more certain than the detailed evidence obtained by the actual weights and blood-examinations. It will be noted that the number of apparent cures has been just as large as that obtained during the seventh year of the sanatorium, although that group contained 17.01 of Stage I, while the group here reported is made up entirely of Stages II and III, the number in whom the disease was arrested was also twice that (in percentage) of those found in the sixty-five cases of the seventh year. This is more than a coincidence, and is more satisfying than the voluminous details, since the future usefulness of the patient and the time of his discharge from the institution, together with almost every other practical consideration, is determined by the clinical condition rather than by any laboratory tests. Dr. Trudeau has well stated this important fact—that careful clinical observation is after all the safest guide we have in the treatment of our tuberculous patients. Dr. Knothe reports from the Hospital of Odessa, April of this year, on cases of tuberculosis treated with atoxyl, saying:

> The value of the arsenic has been ascribed in such treatment to the healing action of the arsenic on the improved blood condition and the nutrition of the organism. To me it appears that the arsenic has, besides this, an actual bactericidal action against the tubercle bacilli within the body. . . . The conclusions from the cases reported may be drawn as follows: Atoxyl exerts a curative action on the disease in question, an activity which, in isolated cases where there is a possibility of comparison, surpasses the activity of the ordinary cacodylate as well as tuberculin, and which not infrequently succeeds without influencing the nutrition of the body, and at times even where weight is lost. I hold to my assertion that the positive results of treatment are to be ascribed to specific bactericidal activity on the tubercle bacilli within the organism.

Our results do not confirm Dr. Knothe's views.

Dr. Peters' paper read at Denver this month concludes that hypodermic injections of iron are practically specific in the secondary anemia of tuberculosis. He considers the iron citrate the best suited in marked anemia, the metarsenate of sodium the best as a general tonic, arsenic and strychnin together to promote metabolism, and finally says that hypodermic injections of iron should always have a place in the treatment of tuberculosis.

CONCLUSIONS

The following conclusions seem to us justifiable, at least in so far as our experience has taught us anything:

1. The subcutaneous or intramuscular injection of sterile solutions of arsenic or iron, or of the two in organic combination, is entirely practicable in the treatment of the tuberculous in sanatoriums.
2. The effects of such medication are seen chiefly in the changes in the blood and in the body weight.
3. The preparations of iron seem to affect the hemoglobin content more profoundly than it does the number of red blood-cells.
4. The preparations of sodium cacodylate and of atoxyl (arsacetin) seem to affect the number of red cells more markedly than the hemoglobin.
5. These solutions are in no sense specifics against the tubercle bacillus, but seem to exert a general tonic or alterative action within the organism.
6. The use of these preparations is entirely safe and is not attended with danger to the patient, even when continued over a period of many months.
7. Relatively larger doses are borne when given thus than are tolerated when given by the mouth.
8. The dosage is capable of exact control and the amount of the drug absorbed is known definitely.
9. The body weight is more rapidly and more certainly raised when these preparations are employed than when the unassisted hygienic-dietetic form of treatment is maintained.
10. There is no demonstrable increased liability to pulmonary hemorrhage accompanying the use of these preparations in pulmonary tuberculosis, even with advanced cases and in the presence of progressive destruction of the lung.

2320 South Figueroa Street.

ABSTRACT OF DISCUSSION

Dr. Samuel D. Swope, Deming, N. Mex.: We find in our part of the country that there is a very marked effect following the hypodermic use of these preparations of iron and arsenic. Many of the people who come to us are in a very low physical state and it is especially noteworthy that we get, as the result of this treatment, a very quick increase in their desire for food, and also in their ability to assimilate the principles thereof. So far as I know in my limited experience no temperature reaction has followed the hypodermic injections of these preparations. There is the suggestion, however, that some of these effects might be due to the hypodermic injections. I find quite a few persons, especially those from the far east, who are very timid, not wishing the injections to be given in the gluteal region; for this reason the injections are often refused. I think that the nervous disturbances may have some effect on the febrile reaction. Dr. Bullock of Silver City, N. Mex., has had quite an extensive experience with this treatment. He reports very satisfactory results and his conclusions are very convincing.

Dr. W. Jarvis Barlow, Los Angeles: Toxic effects from the use of these preparations I have not seen. The reason is, I think, that I have not pushed the arsenic at all and I have kept the patients under treatment for a long period of time. I give these injections of arsenic twice a week; the arsenic is not pushed at all in the class of patients under discussion. I do not see the need of it. I get no rise in the temperature: any rise in the temperature can be attributed to other reasons. Dr. Swope spoke of the patients objecting to the injections being made in the gluteal region. I use the deltoid region and I have yet to find a patient who objected to the injections there. I see no objections to giving the injections in the gluteal region, except that more pain is produced there than in the deltoid region. Dr. Fulton has spoken of the use of these preparations in cases other than pulmonary tuberculosis. I repeatedly see cases that have been carefully watched and which could be compared with tuberculous cases in a similar condition. The results on the blood are not different from what can be obtained by the regular methods. The tonic effects following the injections of arsenic is considerable and are not obtained by me with the employment of other methods.

INTESTINAL APPROXIMATION

A PRELIMINARY REPORT ON A NEW MECHANICAL DEVICE AND A NEW METHOD

JOSEPH B. BACON, M.D.
Surgeon to the St. Francis Hospital
MACOMB, ILL.

About six years ago I announced[1] a new mechanical device for intestinal approximation, called the dumb-bell, from its shape. I have been assured by many of the best American surgeons that the method was a good one, but they stated that the caliber of the dumb-bell used was too small for safety. Accepting this criticism as just, I have made a new instrument which incorporates all of the essential features of the dumb-bell, while I am enabled to increase its caliber by using thinner material. The perfect result of an operation, performed two months ago on a 30-pound pig, convinces me that I am justified in making a preliminary report.

This new device is a simple grooved ring, 3/8 inch wide, 3/4 inch in diameter, made from thin sheet silver, with a forged groove 1/8 inch deep to hold the compressed tissue under a ligature.

The new method of operating and the new device here explained is the result of six years' work. I began with the idea that, in an end-to-end approximation of an intestine, all of the connective tissues must be incorporated in the fixation method in order to safeguard against leakage, and also to get a firm safe union, because it is a well-known fact that the sheath of fibrous submucous tissue is normally both air-tight and water-tight. After experimenting with one device after another, I finally succeeded in making a simple grooved ring (Fig. 1) to accomplish the desired result. It simply acts as a hollow cylinder for the passage of liquids and gas, and at the same time gives a base on which we can tie all the connective tissue in one firm grasp by means of a rubber and silk suture of coarse fiber, and thus have a firm union for three or four days while the serosa and muscularis are becoming united by an organized lymph. In from three to four days the organized tissue is a safe barrier against leakage. The ligature necroses through the connective tissue by this time and frees the device.

The ring is made of thin silver and is very light. There are three different sizes, one for children, one for adults and one for the colon in adults. The same method may be used with a grooved ring moulded from rubber or from any digestible material, but I prefer one of silver, as it can be made small, is light, has a definite strength so that one can do a definite work and know what to expect during a definite time.

We desire the connective tissue to hold at least for three days and prefer it to hold for five days. My experiments on pigs prove that the dumb-bell was freed after from four to six days. The silk ligature should be firmly wrapped around the tissues and the ring twice, then securely tied with several knots; over this should be applied a very light rubber band. The knots and ligatures are left within the canal and the quantity of ligature can make no difference. The ligature material should be coarse, so that it will necrose through slowly, hence heavy braided silk should be used.

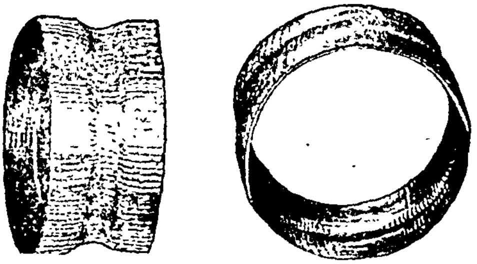

Fig. 1.—Ring used for intestinal approximation.

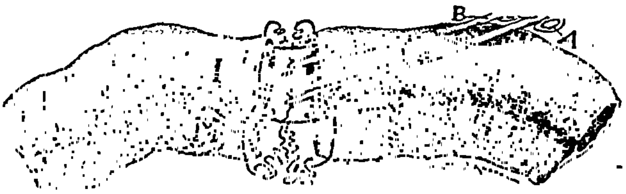

Fig. 2.—Traction sutures grasped by forceps A and B.

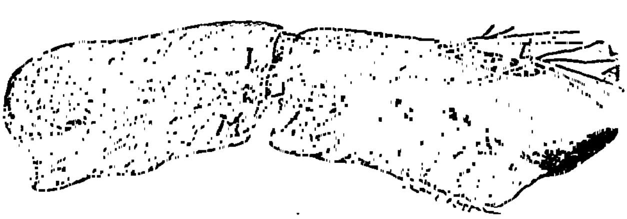

Fig. 3.—The traction sutures in place.

OPERATION FROM END-TO-END APPROXIMATION

The ends of the bowel are secured by a suture at the mesenteric border, care being taken to include in this suture V-shaped mesenteric triangles. Directly opposite the mesentery, on the periphery of the intestine, another suture is placed. Each of these sutures is tied loosely, as they are used only for the purpose of invaginating the two ends of the bowels. Four inches from the proximal end of the intestine, along its peripheral border, an incision is made through the intestinal wall, one inch in length. A pair of forceps is now passed through this incision and into the end of the intestine and the tension sutures secured and drawn through the incision. Now steadying the mesenteric border of the intestine between thumb and finger and drawing the sutures, invaginates the two ends of the intestine into each other and through the incision. The ring is now placed into the ends of the invaginated intestine, being held by special forceps, and the ligature applied at a distance of one-half inch from the ends of severed intestine, encircling it and fitting into the groove of the ring. The operator disinvaginates by gentle traction and pressure on forceps, reunites the peripheral incision with a Cushing suture, then completes the operation by suturing the mesenteric opening. The three sizes of the ring can by the ligature method be made to fulfil any requirement in any operation for intestinal approximation.

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[1] Bacon, Joseph B.: The Journal A. M. A., Jan. 6, 1906, p. 21.

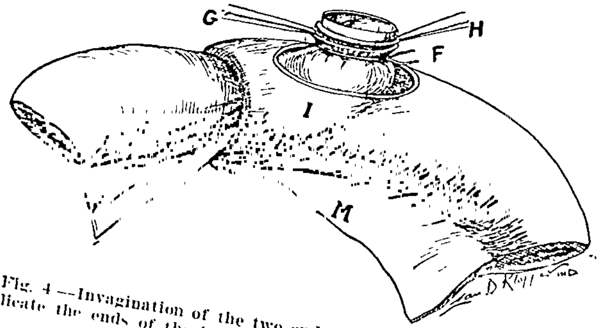


Fig. 4.—Invagination of the two ends of the intestines. G and H indicate the ends of the invaginated intestines; F, rubber ligature.

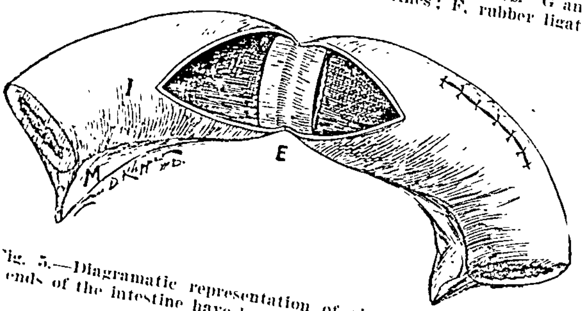


Fig. 5.—Diagramatic representation of ring (E) in place after the ends of the intestine have been disinvaginated.

The advantages of this method of operating are:

1. Simplicity of the construction of the ring; therefore, always ready.
2. Simplicity of the operation.
3. The absolute safeguard against leakage, as the ligature secures all of the connective tissue.
4. The short time in which the operation can be performed.
5. The fact that the ring cannot remain in the site of the operation more than four or six days, as the connective tissue will all have been uniformly necrosed by that time.
6. The fact that the extremely light weight of the ring, its size and shape insure against the possibility of its lodging at any part of the alimentary tract and its large caliber permits the free passage of feces.
7. The fact that no reinforced sutures are necessary.
8. The minimum amount of cicatricial tissue that ultimately remains.

UNIVERSAL GRAVITY OUTFIT

W. T. MEFFORD, M.D.

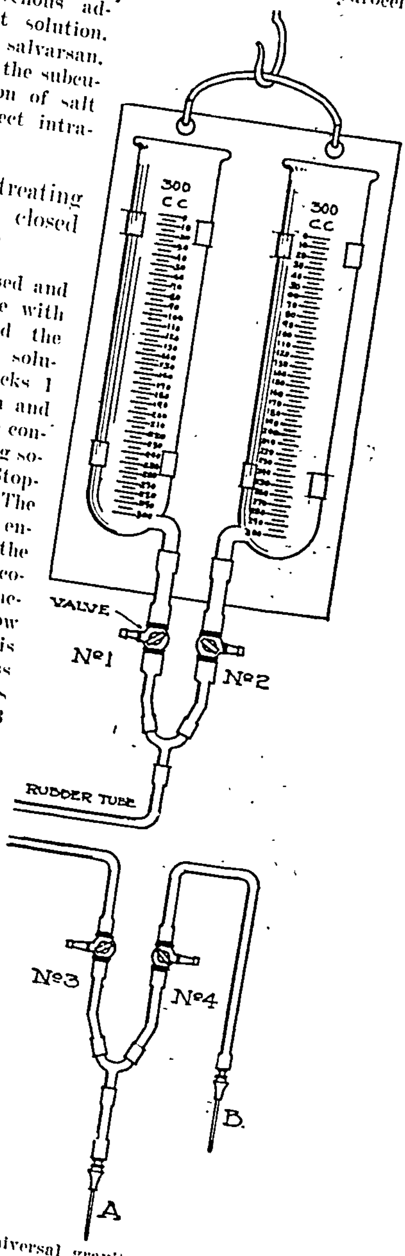
CHICAGO

I have found the outfit here described useful for so many conditions that I wish to bring it to the attention of the profession. It can be used for the following purposes:

The treatment of abscesses by the closed method, as recommended by Sir A. E. Wright; the treatment of hydrocele; irrigation of the bladder; proctoclysis; the intravenous administration of salt solution, defibrinated blood, salvarsan, and other medicines; the subcutaneous administration of salt solution, and for direct intravenous transfusion.

The technic for treating an abscess by the closed method is as follows:

All stop-cocks are closed and the containers filled, one with an irrigating fluid, and the other with the medicated solution to be used. Stop-cocks 1 and 3 are then turned on and the rubber tubing from the container holding the irrigating solution is allowed to fill. Stop-cock 3 is then turned off. The skin where the needle is to enter should now be cleansed, the needle passed through an alcohol flame and the abscess punctured. Turn on the off-flow (Stop-cock 3); Stop-cock 4 is then turned on, the abscess drained, and Stop-cock 4 is again turned off. Stop-cock 3 is now turned on and the cavity filled with the irrigating fluid. When the cavity is sufficiently filled, Stop-cock 3 should be turned off, and Stop-cock 4 turned on, allowing the irrigating fluid to drain away. This procedure may be repeated as frequently as conditions require. After cleansing with the irrigating solution one can, if so desired, turn on any special medicated solution by turning off Stop-cocks 1 and 4, and turning on Stop-cocks 2 and 3, supplying the solution from the container holding such medicine. After filling the cavity with the medicated solution, any part of this solution may be drained away by turning off Stop-cock 3, and turning on Stop-cock 4.



Universal gravity outfit.

The same directions apply to the treatment of hydrocele, and to the irrigation of the bladder, except that the catheter should be used instead of the needle; and for protoclysis, using the rectal tube instead of the needle.

The technic for the intravenous administration of salt solution, defibrinated blood, salvarsan, etc., is as follows:

First sterilize the outfit and all materials to be used, filtering all solutions through sterile filter paper into the containers. Observe the containers carefully and see that there are no small particles floating in the fluid; if so, again filter the solution. Have solutions at a temperature of 100 F. Remove Stop-cock 3 and connect the needle which is to be inserted into the vein directly with the rubber tubing from the containers. Tie a constrictor around the patient's arm to distend the vein at the elbow. If the vein is not sufficiently distended, a few backward and forward motions of the forearm will distend it more. Cleanse the skin over the vein at the elbow with alcohol. Have the needle thoroughly clean, and just before inserting pass it through an alcohol flame. Turn on Stop-cock 1, filling the rubber tubing from the container holding the physiologic salt solution; turn off Stop-cock 1 and insert the needle into the vein. Untie the constrictor, and turn on Stop-cock 1 from the salt solution. When a sufficient amount of salt solution has entered the vein, Stop-cock 1 is again turned off, the needle withdrawn while pressure is made over the vein where the needle enters the skin.

The same technic will apply to the administration of salvarsan and other medicines, except that when the needle is first introduced into the vein the physiologic salt solution should be turned on to see that the needle is in the vein. The needle being properly in the vein, turn off Stop-cock 1, and turn on Stop-cock 2 from the vessel containing the medicine. After the desired amount of the remedy has been introduced, Stop-cock 2 should be turned off and Stop-cock 1 from the salt solution turned on, in order to wash away traces of the remedy that may be left at the point where the vein was punctured. When the vein is sufficiently cleansed by the physiologic salt solution, Stop-cock 1 is turned off and the needle withdrawn as directed above.

For the direct transfusion of blood, the arm of the patient who is to receive the blood, as well as that of the donor, is prepared as directed above for salt transfusion and a constrictor placed above the elbow of each individual. The needles should be thoroughly cleaned by passing them through an alcohol flame just before inserting into the veins. Stop-cocks 1, 3 and 4 are opened, filling the rubber tubing with physiologic salt solution at 38 C. (100 F.). Stop-cocks 3 and 4 are turned off, sterilized needle A inserted into the vein of the individual who is to receive the blood and the rubber constrictor untied. Stop-cock 3 from the salt solution container is turned on to see that the needle is properly in the vein. This having been ascertained, the salt solution is permitted to flow slowly while puncturing the vein of the donor with Needle B. As Needle B enters the vein, Stop-cock 4 is turned on, and Stop-cock 3 is turned off. The constrictor above the elbow of the donor should not be untied until the desired amount of blood has been transfused. After having taken the required amount of blood, the constrictor on the arm of the donor is untied, the needle is withdrawn first from the arm of the recipient in the manner described above, and then the needle is removed from the donor in the same way.

To avoid a hematoma, pressure should be made for a short time over the point where the needle entered the vein. The punctures should be covered with a small collodion dressing.

2139 West Madison Street.

Ancient Surgery.—Surgery is as old as the needs of mankind and its written record extends into the dim past, long before the Alexandrian conquest. It is a disputed theme which one of the two Aryan branches first employed it, but there is evidence that the Hindus possessed a high degree of medical and surgical knowledge, that they performed many plastic operations, among which was rhinoplasty. They also practiced lithotomy quite extensively. Their surgeons removed tumors, did amputations, understood and treated the different varieties of hernias, especially the omental hernia, which was removed by operation on the scrotum. They performed laparotomies, opening the abdomen for intestinal concretions and obstructions. In these cases the incision was made a little toward the left middle line; Cesarean section was also performed, as well as cephalotripsy. Ophthalmology was well advanced and cataract operations were done.—A. M. Crispin in *New York Medical Journal.*

THE INSTITUTIONAL CARE OF YOUNG INFANTS *

THOMAS S. SOUTHWORTH, M.D.
NEW YORK

A recent writer on "The Proper Management of Foundlings and Neglected Infants,"[1] has gone so far as to indicate his belief that the institutional method must give way entirely to the system of placing out in families. He says:

> The first step would be entirely away from institutional care, as the improved feeding-methods and personal hygiene have not had the favorable results expected while the infants are collected and retained in large numbers in one domicile. These old and futile efforts have been long and faithfully tried, and it is time that some other plans be instituted, if the mortality among this class of infants is to be materially reduced.

That the older methods in institutions for foundlings and young infants were productive of a shocking mortality among those under one year of age, has been acknowledged the world over. Nevertheless, reasons existed and still exist for the retention of the institution in some modified form. While some institutions to-day continue to pursue fatalistically the older methods, it must be admitted that others have made marked strides and are presenting very enviable results. But my conviction is that only a beginning has been made, and that far better results can be obtained. The purpose of this paper is, therefore, to call attention to the opportunities and obligations of institutions which receive and care for infants.

FACTORS IN INSTITUTIONAL MORTALITY

The factors which enter into the large mortality in foundling asylums and institutions are as follows:

1. Delay in transmission of the infants to the institution, with resulting disturbance of vital functions and of digestion.
2. Questionable initial care on entering the institution.
3. No wet-nurses, or too few wet-nurses, for premature and delicate babies.
4. Bottle-feeding from birth, or sudden weaning on reception in the institution.
5. Inadequate facilities (milk laboratories or diet kitchens) for preparing bottle-feedings.
6. Routine artificial feeding, with but slight individualization.
7. Insufficient nursing force, which precludes the normal personal attention to each infant.
8. Large wards with ready extension of infectious and contagious principles.
9. Overcrowding, with lack of air-space and of proper ventilation.
10. Insufficient provision for outdoor airings.
11. Inadequate facilities for the application of quarantine, in its broadest sense, to all sources of infection in infancy.

It may be remarked that I have given no prominent place to the requirement of clean milk and of methods intended both to keep it sweet and to limit bacterial growth. This is necessarily included in the proper preparation of artificial feedings, and its importance has been unduly exaggerated and attention thereby diverted from other measures of equal if not greater urgency.

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* Read in the Section on Diseases of Children of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Chapin, Henry Dwight: Med. Rec., New York, Feb. 18, 1911.

Such degree of success as has been attained by the institutions which now show the more enviable records has come to them in proportion to their recognition of the adverse factors which I have enumerated.

To put this reorganization of institutions for infants on a logical basis, we must not be content with the correction of isolated errors; we must go far enough back to discover the fundamental reasons for their abnormal mortalities. In this search, we may start from the premise that as a rule the lowest mortality obtains where infants receive not only the mother's breast-milk, but also her personal care in the home. It matters little how primitive the home, if there be competent breast-milk and individual care, the prospects of survival for an infant, healthy at birth, are excellent. Remove one of these factors, and the risk is greatly increased. We have daily cause to recognize this added risk when artificial feeding must be resorted to, even in a home where there is maternal care. Deprive the infant both of breast-feeding and of home care, and at once the outlook becomes an exceedingly serious one.

While institutional environment undoubtedly contributes its own special dangers, it is generally recognized that when breast-fed or bottle-fed infants in an institution are accompanied by their mothers, they do relatively better than infants correspondingly fed who have no maternal attention. Such success as the placing-out system has obtained is dependent in very considerable part on restoring to the infant individualized care in the substitute home. Therefore, since breast-milk and motherly care in the home are the foremost factors in preventing early mortality, and experience has shown us that possibly either one of the two, but *never both*, can be dispensed with without incurring the greatest risk, it follows that just in proportion to the ability of the modern institution to furnish these to infants will be its success in preventing their deaths and rearing them as normal well-nourished children.

Nevertheless, it is just these two factors which are most lacking in the majority of institutions, and until they are supplied more adequately, it cannot be claimed that the limits of success in the institutional care of infants have been reached.

We may now return to the consideration of the special factors which call for readjustment.

Transfer to the Institution.—The institutional life of an infant is usually preceded by some period of stress in the home from which it comes. This may be due to the illegitimate birth of the infant, the death of the mother, her serious illness, or merely to the mental anxiety associated with increasing poverty or the breaking up of the home. These instances will suffice to indicate that the infant, whether breast-fed or bottle-fed, has usually suffered more than ordinary deprivation and neglect. Then follows the transportation of the infant, often unsuitably clothed, to the institution. Possibly the first application is made with the infant at the police station, the office of some charitable organization or some general hospital. This may involve long waits or another journey. If the baby is taken in at some temporary receiving station, misguided sympathy gives the infant some unsuitable milk mixture to still its cries. Eventually it reaches the institution, suffering from unwonted exposure to heat or cold, fatigued, and probably with a disturbed digestion. In short, infants on reaching the institution are so rarely in normal condition that I recall one institution in which it was the routine practice to enter the condition of all such infants as "hopeless," in order to avoid criticism in the event of their later demise. The partial solution of this problem should lie in better arrangements at all charitable centers and receiving stations for prompt attention to such infants, and for immediate transfer to their proper destination.

Reception and Attention at the Institution.—When the child is received into the ward, the probable previous experiences should be borne in mind. If it has been exposed to cold, it should be given a warm bath to restore the circulation, enveloped in warm clothing and placed in a warm bed. Every institution receiving such infants should be equipped with suitable appliances for maintaining the temperature of feeble and exhausted infants when this is below normal. Premature infants are especially vulnerable. The incubator has gone out of fashion. It easily got out of order, and fresh air was rarely supplied in sufficient quantity. Its place has been taken by enveloping suits of cotton-wool and cheese-cloth, and by padded baskets in which the body heat is maintained by hot-water bottles, or—much better—by electric heating pads. A "warm room," in which abundant fresh air is heated uniformly to 80 F. or thereabouts, will in time come to be a necessity in every well-appointed institution for infants.

Nourishment.—The nourishment of the infant following its reception is a matter of great importance. Bearing in mind its previous experiences, this is a moment for caution. If the child has been previously breast-fed, this is a particularly inauspicious time for beginning total artificial feeding. If the infant has been fed artificially, in an ignorant or haphazard fashion, the digestion is probably more than ordinarily disturbed. Rest and fluid in the form of boiled water are more advisable than food, unless this be very simple—barley water or whey. Exact information as to the infant's previous food is rarely obtainable. A mild laxative to clear the digestive tract of the injudicious offerings of solicitous friends or strangers is a wise preliminary to the beginning of a cautious line of feeding.

Temporary Wet-Nursing.—For many of these infants, temporary wet-nursing should be provided. No other measure offers an equal chance of restoring digestive balance. While the sudden weaning which takes place on the transfer of an infant to the hospital is so often the beginning of a more or less prolonged period of malnutrition ending in death, wet-nursing for a few days will permit the gradual introduction of bottle feeding, and is not only more rational, but more frequently attended with success. Whatever may be said of the ethics of wet-nursing in private practice whereby the life of the wet-nurse's child is often sacrificed in order to save that of the foster-child, wet-nursing in the institution has neither this drawback nor is it impracticable. It is simply a question of dollars and cents.

Breast-milk is purchasable. Institutions which undertake to confine and shelter prospective mothers without pay should, very properly exact an agreement that the women will nurse another baby besides their own, as a partial return for what they themselves receive. Homeless mothers can be found who are glad to accept the shelter of the hospital while earning something for the future, through the sale of part of their breast-milk. Circumstances should determine the manner of payment. Exceptionally willing nurses may be paid a lump sum per month. For others, the transaction should be on the strictly commercial basis of so much per ounce for the breast-milk furnished. This plan, followed at the Sänglingsheim at Dresden and elsewhere, at once assures the cooperation of the wet-nurse. She is more ready to confine herself to a proper milk-making diet, since the larger flow of milk is to her advantage. The quantity taken from the breast is easily determined by weighing the baby before and after nursing. It is stipulated at the start that she is to nurse any baby assigned to her. To ensure this being done, milk, when drawn from the breast and fed from the bottle, is paid for at a somewhat lower rate.

By furnishing temporary wet-nursing, it is possible for the institution to compensate its infant inmates at crucial junctures for the serious loss of maternal nursing.

Artificial Feeding.—Even with a reasonable provision for wet-nursing, the majority of infants in any institution must be fed artificially. This is far from being a simple matter. It is generally admitted by all who have had any experience in this direction that it is much easier to feed artificially a group of infants who are cared for in their homes, even though the homes be poor ones, than to feed successfully a similar group in an institution ward. Furthermore, if institution infants are fed on condensed milk, simple dilutions of cow's milk with sugar and water, or even with a few inelastic percentage formulas of what is commonly called "modified milk," a considerable proportion of the results will be unsatisfactory, and the deaths, especially among very young infants, numerous. Every institution should possess a supply of clean cow's milk, and a milk laboratory or kitchen thoroughly equipped and sufficiently elastic to permit of individualization of the infants in their feeding, and the employment, as required, of every modern scientific aid. Only with such aids, backed by experience in their application, can the mortality of artificially fed infants in institution or hospital wards be reduced to a reasonable minimum. Such a milk laboratory and its maintenance cost money, but it is well expended for the results are to be measured in human lives.

Even with these facilities conscientiously applied, however, there are certain infants who, from failure to absorb their carefully adjusted food, or frequently also as the result of intercurrent disease, lose steadily in weight. Under such circumstances, in private practice the resort is to a wet-nurse with a reasonable prospect of staying the decline and reestablishing normal digestion and absorption. The institution or hospital infant has a right to similar treatment before it is deemed hopeless and condemned to die on a regimen which has already proved inefficacious. Wet-nurses employed by the institution have here another important field of usefulness. It is not necessary that such wet-nursing should be continued indefinitely. When, with gain in weight and restored digestive functions, the infant has been lifted out of the danger zone, artificial feeding may be resumed. This is at first partial, enabling the wet-nurse to give more of her milk to other needy infants, and in time it is made total. A few nursings a day often enable an infant to assimilate more successfully the bottle-feedings which furnish the most of its nourishment.

We have now pointed out the lines along which the institution may progress in compensating infants for the loss of maternal nursing, and may turn to the ways in which the loss of individual care and protection in the home may be more properly compensated.

Large Wards.—Unquestionably, the building of the large wards which prevail almost universally in hospitals and institutions had its origin in the desire to care for the largest possible number of patients, with the aid of the smallest possible number of nurses or attendants. While the evils of this policy can, where adults are concerned, be largely overcome by increase of the nursing staff, the noxious influences of the large ward on children are too numerous and too insidious to be met solely by such measures. The late Mark Twain said that in the home "one baby was a riot, twins an insurrection, and triplets a full-blown revolution." The average mother or nurse in the home would be considered in danger of overwork in giving proper care to three infants. Many institution wards, however, are constructed to house from sixteen to twenty-four infants, while during the day three attendants, of varying degrees of experience, and one at night, would be considered a liberal provision, even when the ward contained a number of sick infants. Such disproportion, even if it allows for the more necessary services, certainly precludes any of the refinements of motherly solicitude, which, in some indefinable way, aid in keeping a baby in good condition.

Overcrowding.—Aside from the lessened attention given each infant, the overcrowding of wards has unquestionably a deleterious effect on young infants. Because infants are small and their cribs small, they are often allowed less air-space than the adult. Just the reverse of this should obtain. Oxidation is much greater during the normal rapid growth of infancy. Free ventilation is therefore imperative. This calls for properly screened windows open at all seasons both day and night. Fresh and not overheated air, now demanded in the treatment of disease, has no less place in the welfare of infants (not premature) who are nominally well. Even with careful attention to ventilation, it is a common experience to find that when a certain number in each ward is overstepped, all the bottle-fed infants begin to do less well.

Probably the greatest menace to the infant in the large ward is infection. The element of added risk, when the infant leaves the comparative seclusion of its own home and enters the populous ward, is scarcely computable. Suffice it to say that the chance of infection is multiplied by the number of other inmates in the ward, since, with a few exceptions, the infections to which it is liable come most commonly from other children, and not from adults.

In speaking of infections and contagions, it is natural that we think first of those popularly associated with infancy and childhood. Scarlet fever and mumps play less part among the very young. Diphtheria is somewhat better controlled than formerly, through antitoxin immunization, but repeatedly breaks out in unexpected places through the agency, probably, of unrecognized bacillus carriers. The exclusion of specific vaginitis calls for constant vigilance. Whooping-cough and measles spread easily, defy ordinary formal quarantine, and cause, both directly and indirectly, many deaths. Illnesses which are regarded lightly in the home assume a more serious import when they occur in a ward of bottle-fed infants who are with difficulty maintaining their weights or even making moderately satisfactory gains. Chicken-pox stops gains and claims some victims among the feeble. Thrush ("sprue") is a serious and often fatal disease in such a group, costing marasmic infants a pound or more of weight, a loss which many cannot survive.

This by no means completes the list of dangerous infections. I am inclined to the belief that two other groups of infections actually cost more lives in institutions having large wards. I refer to the communicable infections of the gastro-intestinal tract which predominate in the summer months, and the communicable diseases of the respiratory tract, which occur chiefly, but not exclusively, in the winter months. Whatever improvement there may have been in other directions, little attention has thus far been paid to isolation, quarantine and other preventive measures for these conditions. There is growing evidence that ward epidemics of intestinal disturbance of varying degrees of severity travel from patient to patient, or arise from common causes not traceable to the milk. Ward epidemics of nasopharyngeal disease are easily recognizable, carrying in their train otitis media, pneumonia and cervical abscess. Isolation in its broader application is not only not practiced, but cases of pneumonia, frankly infectious, are rarely removed from the general wards in which they appear, unless it be for treatment by cold air or in special medical wards. It may be claimed that it is practically impossible to isolate all cases of potential infection in our institutions. If, however, it be really impossible to take measures for the limitation of avoidable illness, the main fault lies with the construction and arrangement of the building. If infections of all kinds are to be limited at the outset, the large ward with many inmates must go.

The construction of new institutions and hospitals for infants must therefore include, primarily, smaller wards, preferably containing four, but not more than six beds. Each ward should have its own toilet and bathing-room, and a smaller room opening out of it, in which any patient showing doubtful symptoms may be placed by the nurse. Each ward should also have a section of veranda on which the infants may be placed in lined and padded baskets on all favorable days. The influence of such outdoor airings on the health, color, digestion and growth of infants has been demonstrated. Each ward should have its own semipermanent nurse or nurses. A more intimate relation will thus be established between the nurse and her charges, a more definite responsibility felt for their welfare, and an honorable pride and rivalry in their progress will be stimulated. With such arrangements, the composite element of "hospitalism" should be largely eliminated. If infants and young children of different ages are assigned to each small ward, conditions will more nearly approximate the home and more personal attention will be secured for the infants. Where training-schools for nurserymaids exist, the training acquired will fit them more suitably than at present to meet their responsibilities when they enter private service.

I am no opponent of the placing-out system, but until we recognize the fundamental defects of the older types of institutions, and cutting loose from tradition and error, rectify them, calling nothing impossible or impracticable until it has been tested under favorable conditions, we certainly are not justified in saying that the institutional care of infants is a failure. The future institution, built and organized to avoid present-day mistakes, should, in view of the showing made by the best of the old-type institutions, attain a proportionately greater measure of success. Then, as now, the most favorable results will be secured, not by the abandonment of either, but from organized cooperation of both systems.

807 Madison Avenue.

ABSTRACT OF DISCUSSION

Dr. Gustavus Eliot, New Haven, Conn.: The most wonderful cures I have known of in children ill with digestive and diarrheal troubles in summer have followed the carrying of children from the city to the country. This leads me to emphasize the point that such institutions for the care of children should be removed from the city and erected in the country. The buildings should not be the elegant three- or four-story buildings such as are often seen in the cities, but they should be low buildings so constructed that after a few years' use they may be destroyed and clean new buildings take their place. The location of such an institution in the country also gives an opportunity for improvement in the treatment of these children in regard to their food. They are fed to a great extent on cows' milk, and if in the country, they can receive milk that is absolutely fresh and clean. In the feeding of these children, fresh milk twice a day should be used instead of the milk that is now used, which is twenty-four to forty-eight hours old when it reaches the consumer. These two things, country air and fresh, clean milk, are most important factors in the treatment of infants deprived of a mother's care.

Dr. J. W. Cokenower, Des Moines, Iowa: In twenty years work in the Iowa Children's Home, in the admission of babies much trouble has been caused us because we could not get a complete history. We have found that in nearly all such institutions nine times out of ten the infectious and contagious diseases have arisen from receiving diseased patients. This we have partially overcome. One must look after the excretions and secretions and deal with them in any way that wil bring the best results. After that is done, no routine method will fill the bill. Individual cases require individual feeding We use barley water, and sometimes have employed prepared foods and malted milk, but it is the exception and not the rule when we have been able to use them advantageously But cows' milk has been our chief dependence and we try to keep that absolutely clean, and have much better results Often we have children brought to us in such a condition that we are unable to do good work. The stomach absolutely refuses to retain anything, either food or medicine, and there is such a generally relaxed condition that we cannot give i by the rectum; then as a last resort we have used quinin and olive oil, making an inunction and wrapping them in cotton and oiled silk. In that way we feed and medicate them until we have given the digestive organs a rest and can feed them otherwise, and in this way have saved several children that I believe we would otherwise have lost.

Dr. Langley Porter, San Francisco: I think no one could have presented a more forcible argument against institutions than Dr. Southworth in the paper he has just read. I believe that twenty years from to-day no one in this Section of the American Medical Association will make a plea for the retention of the institution. In San Francisco we have persuaded the Children's Agency of the Associated Charities to do away with their foundling asylum and to board out the children with the result that the death-rate has been reduced from 40 to less than 2 per cent. But the care of the babies in the institutions is really a very small part of the question. The real problem is to educate the public in caring for children When a baby is boarded out, the result is that the older children in the family are being trained to the proper care of children, and that is the first and greatest advantage in the boarding-out system. A second advantage is the decrease in the death-rate that always follows. The boarding-out system is of economic value, also, for the reason that in the fixed charges of such an institution, as Dr. Southworth has described, we tie up a large amount of money and also pay out much money to people for the care of these children. If you were to divide this money among the many needy families allowing them to care for these children, you would get better value for the money than if it were tied up in capital. believe that before many years have passed Dr. Southworth will be as ready to condemn institutions as any of us.

Dr. I. A. Abt, Chicago: I agree for the most part with the last speaker, though I think it will be many years before we can abolish infant hospitals and asylums. Some place mus be provided where we can send babies that are destitute and require immediate care. I think the infants' asylum or hospital is valuable just in proportion to what is put into it. It is of value just in proportion to the amount of soul and brains put into it. If you want results you must have a technic that provides for asepsis and cleanliness, good food and good care. This must be carried out with determination, and in the end you will save a goodly proportion of your children. In boarding-out cases, the result depends very largely on the character of the women who receive the patients. I have seen both ways tried. In the boarding-out system very often it is a mercenary matter with the women who take the babies. So far as wet-nurses are concerned, it has been said that an infants' hospital has no more right to exist without the wet-nurse than the adults' hospital without an operating room. I think that is true. If you desire to reduce the infant mortality, wet-nurses are absolutely necessary, especially in the summer when the mortality is high. In our own hospital in Chicago we have as many wet-nurses as we need. We found we could train these women to produce large quantities of milk. They milk the breasts and produce several quarts per day. As to the prevention of infection I think very often our technic needs to be perfected. It seems to me we are not careful enough about our hands, and sometimes the nurses infect a child. It all comes to this, that we must educate the educators, particularly physicians and nurses. Mothers and nurses should be taught how easy it is to carry infection from one child to another; not only vulvovaginitis, but a host of other diseases. Each baby ought to have its own individual property, its own toilet articles, its own powder box, even its own thermometer. Another important thing is the feeding of children when they first come to the hospital. I think we have gone too far in the matter of starvation of babies. I think that when a baby is brought in pinched, blue and cold and is given barley water for a prolonged period his weight-curve goes down and if he does not actually starve, at least he falls a ready victim to infection. I believe that starvation is an important element not only in causing the immediate death of the infant but indirectly predisposes to death from infection. Another matter of importance is the question of cathartics. I am convinced that many of these babies are physicked sick. If they have had a cathartic on admission and the intestinal tract is clean, what is the sense in giving them continued carthartics? I think the matter of starvation and the matter of over-catharsis should be emphasized, because at present they are often applied in a routine way without due reference to the condition of the patient.

Dr. T. C. McCleave, Berkeley, Cal.: Dr. Porter omitted to mention a very important feature of the work in San Francisco. This work was undertaken about two years ago. The mortality under the old system was about 40 per cent. and during the first year under the boarding-out system it dropped to 20 per cent. Then, an organization in the city making it possible for these children to be given certified milk, the mortality dropped in the second year to what it now is, about 2 per cent. Dr. Southworth spoke of clean milk. I think the meaning of that word "clean" is not always clear. In the feeding of infants and also of adults sick with various diseases, we know the wonderful change that results from putting the individual on certified milk. Therefore I want to urge on you particularly that you turn more and more to the use of certified milk. We have in California a strong organization of milk commissions, and we have a constantly increasing demand for certified milk. We are engaged in a vigorous propaganda among the laity for certified milk, as well as among the profession, but it is unfortunately true that it is often easier to get a response from the layman than from the physician.

Dr. Jessie McGavin, Portland, Ore.: I do think that one of the most important things is to see that the nurse carries out the physician's orders. It means a constant looking after the nurses until they are thoroughly trained, and when the nurse once understands that you are a crank, and that your orders must be carried out, you will save more of your babies. I lost one baby by neglect on the part of the nurse in the matter of feeding. In regard to contagious cases, in one instance I found a contagious hospital and a general hospital adjoining and the place simply swarming with flies. We need to educate the hospitals in these conditions. As to pure milk, in Portland we have had one epidemic with a very high mortality as a result of dirty milk. All physicians were losing cases. We have had a fight for pure milk and as a result our mortality is lessened.

Dr. T. S. Southworth, New York: Perhaps in some sections of the country the boarding-out system can be employed exclusively, but as I see conditions in the East it will be impossible for a long time to come. The sectarian organizations will be loth to give up their institutions. We still have a considerable field for improvement in our institutions and what I have said applies also largely to babies' hospitals. I recently saw a statement to the effect that being a baby should be classed as an extra hazardous occupation, and it is very true. I did not refer to the glass partitions, for such partitions are valuable just so far as you can depend on your nurses. The glass partition is merely a danger sign board. Speaking of food, we have certainly need of milk which is clean. However, we must not only have suitable milk, but it must be used in the right way. There has been too much talk in this country about the saving of life by pasteurization alone. As to the limitation of infections, reference has been made to the danger of the patient's bringing in infectious diseases on admission. I admit this is a serious matter, but a great deal of infection is introduced into the institution by the visits of parents or relatives. The outbreaks of the ordinary infectious diseases in the wards are directly proportionate to the number of friends allowed to come to see the children. Often a parent will come directly from the bed-side of a child sick with scarlet fever or other infectious disease.

INFLUENCE OF SUMMER HEAT ON DIARRHEAL DISEASES *

I. A. ABT, M.D.
CHICAGO

A first glance at infant-mortality tables demonstrates the fact that the greatest death-rate occurs from the gastro-intestinal diseases during summer. Dr. W. D. Booker, in the presidential address before the American Pediatric Society in 1901, reviewed the early literature on this subject. Dr. Booker says that the records show that in about the middle of the eighteenth century there occurred along the Atlantic coast of North America a serious disease characterized especially by vomiting and diarrhea and was confined almost exclusively to children in the first two years of life. Its incidence was limited almost to the summer months and it appeared each year in an epidemic form, with such regularity that it was looked for as an annual visitor. In 1777, Benjamin Rush read a paper entitled "An Inquiry Into the Cause and Care of Cholera Infantum." He gave a description of the stools, etiology and treatment of the disease. He denied the etiologic importance of dentition, worms and summer fruits, and he thought that the disease was similar to cholera and remitting fever in adults. He did not attempt to explain any relation of the disease to atmospheric heat, but contented himself by saying that the disease seldom occurred in Philadelphia until the middle of June and generally continued until the middle of September, and that its intensity and duration were always proportionate to the heat of the weather. The first indication for treatment, he thought, was to evacuate the stomach by emetics, followed by an abundance of water or tea, or an infusion of blueberries. He also suggested enemas, plasters to the abdomen, and internally he recommended port wine or white wine. The best results were obtained when a little water was mixed with the wine. He considered baths very important and he said his principal dependence had been placed for many years on country air. As prophylactic treatment he recommended, (1) a daily cold bath, (2) clothing which was appropriate to the conditions of the weather, (3) removal of the children from the city to the country. Rush says: "I have never known but one instance of a child being affected with this disease, who has been carried into the country in order to avoid it."

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* Read in the Section on Diseases of Children of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

It was thought at this time that the disease was peculiar to America as, apparently, the condition had not been described in other countries. It was thought to be due to the character of our climate, to the severity, frequency and suddenness of the change of temperature and to the sudden transition from winter to summer without the intervention of a gradually opening spring.

The mode of action of atmospheric heat in causing cholera infantum was the subject of controversy and various theories were advanced in explanation of it. These were for the most part based on the prevailing conception of the existence of a cutaneo-hepatic sympathy. By some, the heat of summer was supposed to exhaust the tone of the skin or to disturb its healthy action and thus determine an undue quantity of blood into the abdominal viscera, causing a congestion of these organs. Booker goes on to say that others thought that the effect of protracted heat led to a disturbance of the digestive organs because of some deranged condition of the exterior surface of the body. In this way the tone and energy of the stomach became impaired and consequently the system became more accessible to impressions exercised by external agents and its resistance to them became diminished.

So far as the geographical distribution of the disease is concerned, it is noted that in the extreme north or south, the sick-rate and the death-rate are low. In North America, the middle and western states contribute the largest numbers in the mortality figures. As one approaches Canada, the numbers diminish; in the South and Southwest, we are told, the disease is less common. It is rare in the tropics, as has been observed in Brazil and in the tropical and subtropical regions of Asia and Africa. The same points in vital statistics apply to European countries. The summer diarrheal diseases occur most frequently in the large centers of population, particularly the industrial centers and in those regions where artificial feeding is commonly employed, and where the climatic conditions are such that the summers are relatively hot and the winters cold and severe.

The older American physicians, particularly Rush, thought that the hot weather was the most important factor in the etiology. He advised taking the child from the city to the country. In the course of time, other writers thought that the hot weather alone was an insufficient cause. Some said that the summer diarrhea of infants was a species of Asiatic cholera; others, that it was a form of malaria. In America, some writers considered it akin to yellow fever and others thought it was due to an indefinite miasm. Virchow thought that the condition stood in some relation to the water-supply and drainage, or to the surface water, adopting the view Pettenkofer applied to typhoid fever. In short, the older views as to the etiology of summer cholera considered that the disease was due to exogenous agents, the action of which was favored by the external heat, the latter acting either directly or through the food.

When the bacteriologic era began the attempt was made to find specific microorganisms. Escherich differentiated an exogenous infection of the intestines, the so-called streptococcus enteritis, and an endogenous infection, a process which ran its course as an auto-infection, or an infection of the chyme. Escherich thought that the disease might be produced by infected cow's milk, microorganisms gaining access to the milk shortly after milking, or that endogenous decomposition occurred as the result of already sick or enfeebled children receiving such milk. In the intestinal canal, irritating organic acids were believed to be produced, or alkaloidal products, ptomains, which produced diarrhea and nervous symptoms. No specific microorganism was found, but various forms, he thought, were capable of producing such a reaction. Other authors described epidemics of summer diarrhea, particularly in hospitals and asylums, and naturally thought that the epidemics were bacterial in origin. Baginsky, who failed to find a specific microorganism, came to the conclusion that the saprophytic bacteria in the milk were capable of producing poisonous peptones from the proteids. He thought that indol, phenol and ammonia gained access to the lymph and blood and produced toxemia. It is a well-known fact that bacteria multiply rapidly in milk during hot weather and it was thought that this was the sole cause. This led to sterilization and pasteurization of milk. Flugge and all the other authors who have described the poisonous effects of milk in producing summer cholera have compared this condition to meat-poisoning. But this comparison does not hold in all details. Meat-poisoning and sausage-poisoning affect all persons, whether they be children or adults, who have partaken of this food. It might be said that children are more susceptible than adults, though as a rule not all children who partake of supposedly infected milk fall ill. On the other hand, Vaughn has described epidemics of poisoning by ice-cream and cheese, affecting every person who partook of the food. They fell severely ill with vomiting, diarrhea, pain, weak, irregular pulse and great pallor or cyanosis. He isolated a poisonous substance which he called tyrotoxicon. No further argument need be advanced that the summer complaint is not similar to tyrotoxicon poisoning.

Czerny and Kellar believe that summer diarrheas are for the most part the result of exogenous fat-decomposition due to the presence of bacteria; they think that this condition is related to the heat of the summer only in so far as the increased number of microorganisms are rendered more active. But there are numerous objections to this theory. If it is true that bacterially acidified milk is toxic, why is buttermilk devoid of toxicity and why so acceptable, even to the sick infant?

In brief, it may be said:

1. The bacterial toxicity of milk is not proved.
2. On the other hand, a bacteria-laden milk is more likely to produce diarrhea than milk poor in bacteria.
3. In those cases in which a toxic product has been isolated from milk or meat, nearly all persons who took such food were rendered severely ill. An analogy of this condition with summer diarrhea is not tenable.
4. It is very probable that bacteria play a part in summer diarrhea, but they do not act on the milk before it is taken into the body (exogenous), but more likely cause fermentation after the food has been received in the gastro-intestinal tract (endogenous).

The bacterial explanation for the summer diarrhea is not sufficient. Why the excessively high mortality only during the hot weather? How may we explain the fact that the hotter the summer, the greater is the sick-rate and the death-rate among infants?

If during a hot day one examines the conditions under which the infants live in homes of the poor, one will be impressed by the fact that the temperature indoors exceeds the temperature outdoors; that at night, if the temperature outdoors has fallen considerably, the temperature indoors is considerably higher. The babies are frequently put to bed overclothed and sometimes excessively covered with bedding. If the infant's temperature be taken even before diarrhea has set in, he is frequently found to have 100 to 101 F. Many writers have looked on this condition as one of insolation or heat-stroke.

The interesting fact has been brought out that seven times as many artificially fed children, as breast-fed, die in summer. The bottle-baby is at greater peril in summer than at any other period of the year. No matter what theory may be advanced, the fact that breast-fed children show greater resistance and immunity than bottle-fed children cannot be denied. Those infants who have previously suffered from gastro-intestinal derangement, or even those who are convalescing from some alimentary disorder, are likely to show a hyperthermia on the advent of hot weather. This is undoubtedly due to the fact that the heat-regulating mechanism is much more unstable in children suffering from digestive disorders, and we may say that such children are predisposed to heat-stroke.

It is not possible to say in what manner the heat affects the body of the child, but it seems that the infant's resistance is lowered and that injuries by food are readily produced. It is not known whether the heat produces changes in the enzymes of the digestive tube. or whether the bacteria make toxic products or irritating acids in the gastro-intestinal tract. It is possible that the epithelium of the gastro-intestinal tract is itself damaged. It would be unscientific to say that bacterially decomposed milk has no causal part in producing summer diarrhea; but on the other hand, proof is insufficient to permit us to say that bacteria play the single rôle. It would seem that the increased heat, particularly of the home, is an important etiologic factor. Whether this be due directly to heat-stroke or whether it be, in the sense of Finkelstein, a diminished tolerance for food and the possibility of injury by food, must remain for the present an open question.

Perhaps this latter point will explain the difference in death-rate between breast-fed and hand-fed infants. The tolerance for breast-milk is always greater than the tolerance for cow's milk, and similarly, immunity and resistance is greater in breast-fed than hand-fed children. A word should be said against the practice of keeping sick infants warmly dressed and excessively covered during the hot weather. A cool bath and the out-of-doors temperature are important indications in treatment.

The occurrence of high sick-rate and death-rate during the summer cannot be explained by a single cause. We believe that the condition is due to a combination of causes. Infected milk has a deleterious influence, but it must be considered along with the direct influence of heat, especially the excessive warmth of the home. It would be unwise to deprecate the advantage of sanitary milk, but the problems of hygienic housing, the avoidance of overclothing, the importance of taking the child out of doors and of frequent bathing are important points which cannot be overestimated in consideration of the summer diarrheal diseases of infants.

Finkelstein, after discussing the bacterial theory of summer diarrhea, thinks that infection occurs in those cases in which the gastro-intestinal cells have been previously damaged. He is willing to admit that delicate children who ingest bacteria-laden milk are liable to have gastro-intestinal infection or that damage may be produced by preformed acids and peptones in the milk. The two arguments in favor of infected or decomposed milk as cause of gastro-intestinal disorders were: the increased morbidity and mortality during the summer, and the fact that the greatest proportion of those that sickened and died were bottle-fed infants, while breast-fed children were for the most part immune. But Finkelstein thinks this insufficient. He thinks that the majority of infants who sicken or die during summer time are injured by the heat. The cases begin acutely, show symptoms of hyperpyrexia and the trouble may be cured or even prevented by reduction of the patient's temperature or by providing cool, sanitary living conditions. The heat lowers the individual tolerance of the infant and predisposes him to gastro-intestinal disorders which are likely to assume great severity.

If it is asked why breast-fed children enjoy immunity against the injuries produced by excessive heat, it may be answered that the child suffering from digestive disturbances has less resistance to heat than a normal child, since most breast-fed children are well, and a goodly number of hand-fed children are more or less ill, the conclusion is obvious.

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ABSTRACT OF DISCUSSION

Dr. John W. Foss, Phoenix, Ariz.: In Phoenix we have probably the highest dry-bulb temperature and the lowest wet-bulb temperature during the summer, of any place in the world. We have no acute dysentery in children in the summer. We consider the summer the healthiest season for children. In fact, we have very little sickness of any kind among children at that time. So I think this question of heat is practically eliminated as the cause of this class of diseases in children, judging from the experience we have had in our climate. There are few places which have less physical discomfort from heat during the summer than Phoenix. As an illustration of this fact, 15 per cent. of humidity with the thermometer at 106 F. at Phoenix is as comfortable as 70 is at Chicago ordinarily, or the dry-bulb thermometer would have to register 133 at Phoenix to cause as much discomfort as 90 per cent. of humidity with the thermometer registering 98 F. at Chicago. It is probably this remarkable climatic condition which is so conducive to the health of children. Our experience would seem to prove that the mere question of heat has nothing to do with these diseases, especially at Phoenix. The wet-bulb rarely goes above 72 F. in Phoenix in the summer time, while the dry-bulb will sometimes run as high as 110. Evaporation and radiation are very rapid here on account of the pure dry air, moderate wind velocity and varying atmospheric pressure.

Dr. M. A. Weems, Columbia, Tex.: I think this question can be explained by the humidity. In Arizona at the time the air is so dry the evaporation from the body of the child is so rapid that it keeps the body temperature low even in extremely hot weather.

Dr. W. V. C. Francis, Los Angeles: I think one factor in the etiology of summer diarrheas is very obvious, in that the condition occurs in large cities. In Los Angeles we have none of the really poor and none of the overcrowding that you have who live in large cities. I believe a large factor in the diarrheas of children is the lack of fresh air. If you remove the slum districts and the overcrowding, you will do away with a lot of the summer diarrheas and deaths.

Dr. Frank P. Gengenbach, Denver: Undoubtedly there are many factors to be considered in the cause of summer diarrheas in children, but I am inclined to believe with Dr. Abt that heat does have something to do with it. Recently we had an early and sudden hot spell for Denver, and in my own private practice I saw distinct disturbances among the babies. This is an instance in which the ideas of Dr. Francis do not apply, for these babies were in well-to-do families, well provided for, well cared for, and had plenty of fresh air. I think that some depressive factor in connection with this hot spell certainly did disturb the babies. Probably in hot weather the babies cannot stand as rich a food, as high in fat, and it disagrees with them. Often it is not necessary to take them off the food, but if I take off the cream and give skim-milk mixtures they rapidly improve.

DR. FRANCES M. ALLEN, San Diego, Cal.: In my experience of six years in Illinois in a children's institution, the children were cared for by mothers who boarded the children for $2.50 or $3.00 a week each, and our results showed that we could keep our mortality low, except during the hot spells. During five years we had a high mortality only during August, during the sixth year, in July.

DR. L. T. ROYSTER, Norfolk, Va.: To me this is one of the most interesting and difficult phases of the diarrhea question. I come from the Atlantic coast, where the humidity is high, and where a temperature of 88 F. is very uncomfortable, while a temperature of 100 F. out here I have not found at all uncomfortable. In April the temperature rises considerably; then during the first two weeks of May we have a considerably cooler spell, and then the temperature shoots up and the minute the temperature goes up the trouble begins. I can almost predict the number of my calls by the reports of the weather bureau. In June we have a high death-rate. In July and August we have a decreased mortality, so I believe the humidity must have something to do with it. Another interesting fact is this: I have practically no consultations in summer diarrheas from the country. Yet there the temperature is just as great and the humidity is just as great; but I practically never see a child from two miles out with a summer diarrhea. Again, I practically never see a case among breast-fed infants. If a sick child is brought to me in the morning and it is taken for a boat ride for the day, it will come back in the evening 95 per cent. better. In fact, we have tried to train the mothers to take the children to the sanitarium when they first become sick, without waiting to see a physician, even, and it is really surprising how rapidly they improve, even though the institution is located but 50 yards from the shore. Another thing is the character of the discharges. These vary from year to year. One year there will be a watery discharge with the same prostration and again the next year we may have a remarkable number of dysenteric discharges, so that from year to year the discharges are markedly different.

DR. I. A. ABT, Chicago: I think the fact has been brought out by investigators, even as far back as the time of Benjamin Rush, that summer diarrheas are more prevalent in the temperate regions, while further south and even in the tropics, the disease is scarcely known. In my own part of the country there is a striking relationship, I am sure, between the condition of the weather and the summer diarrhea. I think anybody who has lived east of the Mississippi River will not doubt that. Why New Orleans should have a low death-rate with an increase of temperature I confess that at this moment I am unable to see. I am not sure that the heat is the only factor, but it does seem that all over the world where cases are being studied and where men are trying to solve this problem, during July and August there is the highest death-rate. It is true the condition is more common in the cities than in the country, but the condition is not confined to the cities by any means. I brought up this question because it seems to me we ought to study the cause of these summer diarrheas. The war that is being waged all over the world to save babies needs some help from the educator. We urge that every effort be made to save babies and I think it is very important that we attempt to arrive at some definite conclusion as to the cause of trouble. I would suggest that a committee be appointed from the various communities and that this committee be asked to keep a record of their observations and that they submit a report based on such records.

TWIN PREGNANCY IN UTERUS BICORNIS

PHELPS G. HURFORD, M.D.
ST. LOUIS

In view of the rarity of pregnancy in the uterus bicornis, with viable fetus, I think the following case of sufficient interest to report. The patient was referred to me by Dr. George M. Tuttle.

History.—Mrs. E. B. C., a cultivated American woman, aged 34, was seen by me in March, 1911. She was then about four months pregnant and very uncomfortable, having pain much of the time from what appeared to be uterine contractions, also much pain due to attacks of acute indigestion. The bladder was very irritable and for about three months she had had to get up three or four times at night to urinate.

The patient had one child living, a girl 5 years old, in perfect health; this child was born prematurely at eight months and had thriven from birth. One other baby had been born prematurely at about seven and a half months and had lived seventeen months, dying of some intestinal infection. With each former pregnancy, Mrs. C. had had similar pain and discomfort, and all efforts to prevent premature labor failed.

Examination.—The patient was apparently in good general condition but somewhat nervous over the prospect in store for her. She was about four months pregnant. The fetal movements could not be felt; the heart-beat could not be heard. There was unquestionably a notch in the upper middle portion of the uterus, but no importance was attached to this finding. A mass could be made out on either side. It was now learned that, whereas in previous pregnancies there had been movements and contraction pains only on the right side, they were now present on both. The urine was examined repeatedly and was at all times normal.

With careful dietary and some medication the patient went along more or less uncomfortably (mostly more) for two months. She was up for a time every day but went out very little. Later examinations convinced me that there was something radically out of the way in this case. Movements and heart-beat could be readily made out on the right side but never on the left; the separate masses could be easily distinguished. June 3, the threatened miscarriage became imminent; sedatives had no effect. True labor pains began and on my second visit dilatation was well advanced. After the patient had progressed favorably through the night, the pains unaccountably stopped early in the morning. Dilatation was then complete and the membranes were ruptured. It was now found that the umbilical cord was through the pelvic inlet and the head beside and above it was not engaged. The cord was pulsating and the child and the mother were in good condition; as yet it could not be certainly demonstrated that twins were present. Dr. Tuttle saw the patient at this time and thought twins a strong probability. Although it was probable that interference would be necessary it was decided to wait a while longer.

Delivery.—That evening artificial delivery was performed under chloroform anesthesia. Dr. H. J. Storrs was called in consultation and agreed to the necessity. He suggested the possibility of a twin pregnancy in a bicornuate uterus. Version was performed and one living and one dead child delivered. A septum divided the uterus to a point well below the umbilicus and a fetus occupied each side; both were vertex presentations. The placenta of the dead child showed the site of the hemorrhage that had provoked the miscarriage. The uterus contracted promptly and then showed two separate fundi, each larger than the fist, and separated by a notch so deep that the clenched fist easily rested in it—a typical uterus bicornis. There was no appreciable difference in the size of the two horns.

Recovery.—Convalescence was uneventful, the patient sitting up on the eighth day. Involution proceeded normally, and after two months a vaginal examination showed clearly the two cornua, each about the size of the normal fundus and separated from each other enough to allow the two examining fingers between them. The notch extended nearly to the supravaginal portion of the cervix.

346 North Boyle.

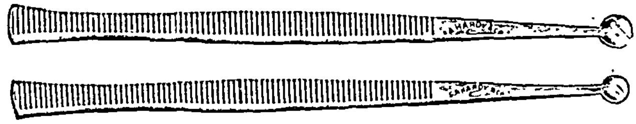
CIRCULAR BLADE, HOLLOW AND GUARDED CHISELS

ADVANTAGES OF THEIR USE IN MAKING BONE-FLAPS

D. MILTON GREENE, M.D.
DETROIT

When performing operations on the skull and antrums, I have for years been impressed with the fact that when a bone-flap is to be formed and replaced, with the expectation of its preservation and ultimate reuniting, as in the "Beck frontal antrum operation," it is highly important that its periosteum be not detached, because the bone, as is well known, derives its nutrition largely from it. This is especially true in operations in presence of pus or infection, for the bone-flap must under such circumstances have more and better nourishment, and more perfect coaptation than would be necessary under aseptic conditions, in order to preserve its vitality, and insure its integrity and ultimate reunion.

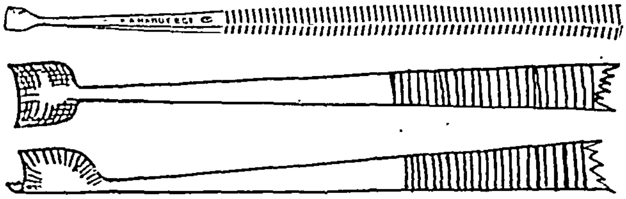
Should the periosteum become detached from the bone-flap in performing the Beck operation, necrosis would follow, necessitating removal of the bone, which would cause scarring and depression deformity, and would be a great calamity to both the patient and the surgeon; this is true of any operation for the formation of a bone-flap, where its preservation is essential. Detachment of the periosteum is usually caused by splintering the bone in cutting it with chisels. The splinters and fractures which occur in bone-flaps, made by chisels, are always due to the wedge shape of the chisels used. When a wedge-shaped chisel is driven into bone, the "chip" or part so cut has to rise or be displaced to make room for the bit or blade of the chisel, and is thereby split or fractured at the junction of the incision and the uncut bone, just in proportion to the thickness of the chisel at that point. Every time the chisel is driven into the bone, it splits or fractures it in the manner above stated, so that when the bone-flap is completed, there will be a series of splits or fractures around its edge, with consequent separation of a portion of its periosteum, with a liability of complete separation of the bone-flap from its periosteal covering.


Figs. 1 and 2.—Two circular blade chisels.

I have devised a set of chisels which overcome in a large degree the difficulties mentioned, and which are useful in many operations on the skull and antrums, especially in forming bone-flaps and in operations within the nose. They are so constructed that they may be driven into the bone without producing any fracture. These chisels are new in design and original in the philosophy of their use and effect. There are five chisels in the set: two circular blade chisels (Figs. 1 and 2) one hollow chisel not unlike a "square shovel" (Figs. 3, 4 and 5), one guarded chisel with straight bit, and one guarded chisel curved on the flat.

They may be described as follows: They are six inches in length, with formed, milled handles; two are made with circular blades, beveled on both sides or surfaces, so that they will cut in every direction, except where the handles join the blades; one is made with a blade 7 mm. and the other 8 mm. in diameter, and about 1 mm. thick at the junction of the handles with the blades. They are so constructed that when driven into bone, the only place the incised bone has to yield is at the center of the blade, and there only 1 mm., while at the circumference (at the edges of the incision), where the incision joins the uncut bone there is no displacement, and, therefore, no splintering or fracture takes place.

The third chisel of the set is called a "hollow square blade chisel," and is not unlike a square shovel in form (Figs. 3, 4 and 5). The blade has a curve of about one-fourth of a circle, is sharp in every direction, and has the same cutting effect the circle blades have. This chisel is used in cutting a circular flap in any operation, and may be used in removing turbinates, septal shelves, spurs, and in opening into the antrum of Highmore.


Figs. 3, 4 and 5.—Hollow chisel not unlike a square shovel, beveled from center to all edges, leaving the thickest part at handle and in the center. Side view and front view.

The other chisels of the set are called guarded chisels: they are made with handles the same as the others, ending with flat blades, 7 mm. wide, 1 mm. thick and 3 cm. long. The cutting edge is beveled from both sides in the center, making edge 4 mm. wide, and concave, with a guard at each corner, which is 1 mm. square, 2 mm. long and rounded (blunt) at the end. These act as guides as well as guards. One has a straight blade (Fig. 6), while the other is curved on the flat (Fig. 7); the latter is designed especially to be inserted beneath the bone-flap in the Beck frontal antrum operation, to cut the partition or bony septum of the antrum. The guards guide the chisel, and cause it to follow the bony septum, no matter how crooked it may run. These chisels may also be used in removing turbinates and septal shelves, and for various operations where guards or guides are needed.

There is one precaution necessary in using these chisels: The force necessary to drive them through bone is much less than that required in using ordinary chisels, because the resistance is reduced to a minimum, therefore, great care should be used that they are not driven beyond the point desired.

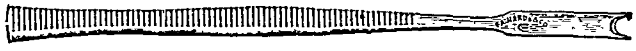


Fig. 6.—Straight guarded chisel.

Fig. 7.—Curved guarded chisel.

712 Jefferson Avenue.

Economic Importance of Health.—If the citizen is diseased, his usefulness is curtailed; if as a result of disease he is maimed, crippled or blinded, he often becomes a burden to the community; if his life is thereby cut short, his services are ended. Has anyone ever calculated the economic loss to the country that might be materially reduced by giving the same attention to the preservation of the human species as is given to animals?—White in *Journal of the South Carolina Medical Association.*

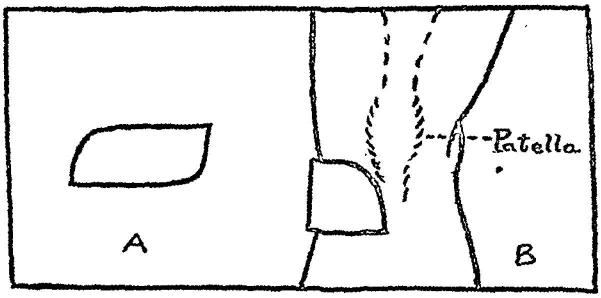
TREATMENT FOR SLIP-MENISCUS

GEORGE CHANDLER, M.D.
KINGSTON, N. Y.

Slip-meniscus, or dislocation of the internal semilunar cartilage of the knee-joint, I have found to be of very frequent occurrence, and more often in females than in males. Standing on one foot solidly, as when on a step-ladder or chair, and making a quick move or inward rotation is the most common cause of loosening the cartilage. The internal condyle of the femur pressing against the cartilage, by this quick motion, displaces it inward, moving it on the upper surface of the tibia and thereby rupturing the coronary ligaments. It rarely comes from a fall or from slipping. The quick rotation would not displace the cartilage if the foot were not placed solidly on the ground and the weight of the body all on that leg. The symptoms are pain in the joint, quite severe, made more so by the complete extension of the leg, comparative ease when the leg is in semiflexed position and marked tenderness on pressure over the cartilage itself. There is usually very little swelling, though it may occur.

The following treatment I have been using for the past ten years with very marked success, and I have described it to other physicians, who tell me that their results are also very satisfactory.

For these cases I always have in my office several pieces of sole leather, cut, approximately, to the shape shown in the illustration at A, about 4 inches long by 1¾ inches wide. I fit this leather to the inner aspect of the knee-joint as indicated at B. By first putting the leather in water, soaking it thoroughly and whittling the edges so that it is smooth, it may be *molded* into shape. I then strap this piece in position over the cartilage by adhesive straps, two up and down, one horizontally and one oblique, making four in all; then a firm, though not too tight, bandage of the coat-of-mail type is applied over the knee. If the bandage is voluminous, it need not be put on tightly, as it will give splendid support without shutting off the blood-supply.



Treatment of slip-meniscus; A, sole leather cut for application; B, leather applied to the knee.

I allow the patients to walk the same as usual, though they complain of some pain or rather soreness, which wears away in three or four days. I have them report in ten days when I reapply the same leather under a fresh bandage. After about three such treatments, the patients are well and only a bandage needs to be applied. I think the irritation of the leather which supports the cartilage in its natural position causes an aseptic adhesive inflammation to take place between the cartilage and bone; this takes the place of the ruptured coronary ligaments.

The advantages of this treatment are, its simplicity, its efficacy and the fact that patients can continue at their occupations while undergoing it. In fact, it removes all the attendant inconveniences of this painful condition and places it, to my mind, in the same category with a sprained ankle, when the latter is treated by the modern method of adhesive straps and walking.

11 East Chestnut Street.

SUCCESSFUL USE OF THE STAPHYLOCOCCUS SPRAY ON DIPHTHERIA CARRIERS

S. R. CATLIN, M.D., L. O. SCOTT, M.D.,
AND D. W. DAY, S.M., M.D.
ROCKFORD, ILL.

Early in January, 1911, an epidemic of diphtheria broke out in Rockford Hospital. With the appearance of the first case, all ordinary precautions of isolation, giving of antitoxin, etc., were employed.

The appearance of a second case made it evident that infection might be general throughout the institution, and we were appointed a committee in charge with power to institute any measures necessary to prevent an epidemic. Antitoxin was administered to all known contacts, and daily routine cultures from the throats of all inmates were made and examined. A quarantine for clinical cases was established in a separate building, and an isolation ward for carriers in another.

While no patients at any time developed the disease, within about two weeks from the appearance of our first case, a total of twelve clinical cases had developed among the nurses. Of these twelve, eight had received, from four to ten days previously, immunizing doses of from 1,000 to 2,000 units of Illinois State Board of Health antitoxin.

Five hundred cultures were taken during the epidemic from a total of seventy individuals. As a result of these routine cultures, twenty-two persons were found to have the diphtheria organisms in their throats without manifesting clinical evidence of the disease. In other words, out of a population of seventy people, 17 per cent. developed diphtheria, and 31 per cent. became carriers. As stated above, these carriers were isolated in a separate building. Release from isolation or quarantine was only granted after at least three negative cultures.

During the early stage of the epidemic, the ordinary methods of throat antisepsis were used, such as spraying with liquor antisepticus and 50 per cent. alcohol. In spite of all methods, certain individuals remained carriers for days. Two clinical cases that had been released from quarantine after three consecutive negative cultures were again found to harbor the diphtheria bacillus. Two persons were released and reisolated three and four times, respectively. Our most persistent carriers, however, were nurses who at no time gave clinical symptoms. In some instances it was found that nose cultures were positive when throat cultures were negative.

At about the height of the epidemic, Prof. Norman MacLeod Harris, of the University of Chicago, was invited to go over the situation with the committee. He verified without exception all culture findings that had been made. He recommended the use of a spray of broth culture of *Staphylococcus pyogenes aureus* as a means of ridding the throats of the diphtheria organism: a method first introduced by the Danish physician, Schiotz,[1] and later successfully tested by Page[2] of Manila.

There was opportunity to test this method in eight cases, all carriers. A twenty-four-hour old bouillon culture was sprayed into the nose and throat two or three times daily, all other treatment being stopped. In no instance did any harmful condition develop as a result of the introduction of the staphylococci.[3]

Two nurses, previously persistent carriers for days in spite of all antiseptic measures, failed to give one positive diphtheria culture after the first application of the staphylococcus spray. Three nurses, each having had one positive culture previous to the use of the spray, were constantly negative thereafter. One nurse had one positive culture after using the spray, and one other had three positive cultures after employment of the spray, and then became negative. The eighth nurse was persistently positive in spite of, as supposed, the daily use of the spray; but it was later discovered that she had evaded using it as directed; more careful control of her use of the spray immediately cleared her throat of all diphtheria organisms.

CONCLUSIONS

1. The ordinary immunizing dose of diphtheria antitoxin does not always protect an exposed individual against the disease.
2. Only by regular and constant taking of cultures can institutional epidemics of diphtheria be controlled.
3. The usual methods of throat antisepsis are of little value in ridding the throat of diphtheria bacilli.
4. Treatment of the nose is as important as treatment of the throat.
5. In institutional epidemics, more than one series of three negative cultures is necessary for release.
6. Results with *Staphylococcus aureus* spray were such as to warrant recommending its further use.
7. Apparently no harm results from the application of the spray.

THE TRANSFUSION OF BLOOD

FURTHER NOTES ON A NEW METHOD *

ARTHUR H. CURTIS, M.D., and V. C. DAVID, M.D.
CHICAGO

In a previous paper[4] was presented a detailed preliminary report on a new method for the transfusion of blood. At that time we expressed the opinion that the accepted methods of transfusion then in vogue were not adapted to general use and were not highly satisfactory even in the hands of those skilled in surgical technic and experienced in blood-vessel surgery. Evidence that others shared this opinion is afforded by a survey of recent literature, which contains numerous descriptions of ingenious devices contrived for the purpose of making this important operation one which can be performed by any competent surgeon. Especially deserving of mention, in addition to the well-known cannula of Crile, are the devices of Brewer and Leggett,[5] of Janeway[6] and of Sorese,[7] all of whom have given valuable reports of their studies in this field.

A more extended experience with our method of transfusion has resulted in the introduction of certain modifications in the technic, without radical alteration of the original procedure as previously described. The apparatus (see illustration) consists of a large glass bulb with two cannula tips, and a rubber tube with a glass syringe attached. The glass bulb is sterilized by the dry method and the inner surface coated with paraffin. The paraffin coat is best applied by pouring hot paraffin into the open end and then rotating the bulb to secure a uniform coat. The two cannula tips are then heated and each in turn dipped into melted paraffin and shaken to make a thorough coating so as to keep the excess from occluding the lumen. The syringe and rubber tube are prepared by boiling.

With the apparatus now ready for use a one-half-inch incision is made over the most prominent vein of the elbow region in both donor and recipient. The donor's vein is then clamped at the distal end of the incision, stripped, ligated proximally, cut below the ligature and washed out with 1 per cent. solution of sodium citrate. The recipient's vein is ligated distally, stripped toward the heart, clamped at the upper end of the incision, cut above the ligature and also washed out. The cannula tips are moistened by introducing a few drops of liquid petrolatum through the bulb end, then inserted into the respective veins of donor and recipient and are ligated in position. Aided by the use of a shoulder-constrictor blood rapidly enters the bulb when the donor's vein is released. As the blood rises in the tube a covering cap of liquid petrolatum is added to relieve surface tension. The rubber tube is now fitted over the top of the glass bulb, and the tube and syringe are used to produce positive and negative pressure as desired. (The bulb usually fills without resorting to suction.) The donor's vein is then held by the fingers, the recipient's vein released and the blood introduced into the latter at any desired rate of flow. When the bulb is nearly empty the recipient's vein is held and that of the donor released, thus allowing the bulb to again become filled with blood, after which the process continues as before. Bulbs of various sizes ranging in capacity from 100 c.c. to 400 c.c. have been used. Experience indicates that the largest size are, as a rule, the most satisfactory.

In experiments extending over a period of nearly a year transfusion has been performed according to this technic, on an average, from one to two times weekly. A considerable number of the animals have been killed and autopsy performed at the close of the experiment. Others have been examined after being kept for periods varying from one day to five weeks. From a study of the animals under observation following transfusion, we are convinced that the blood received by them functionates in a normal physiologic manner. In no instance have the clinical manifestations or autopsy findings revealed evidences of ill effects.

We have performed four transfusions in human patients according to this modified new method. In these operations were found two obstacles not encountered in experimental work. The first difficulty met was lack of blood in the donating vein, as a result of which only 300 c.c. were obtained. Since the time of this operation (Transfusion 1) we have used a constrictor around the arm of the donor and no longer want for blood. The second difficulty arose in one instance and was due to the unusually small size of the basilic vein of the recipient, who was a delicate woman with cubital veins little larger than those ordinarily found at the wrist. After transfusing this patient with

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[1] Schiotz, A.: Ugesk. f. Læger, lxxi, No. 50, 1373; abstr. in The Journal A. M. A., 1910, liv, 422.

[2] Page, H.: Arch. Int. Med., 1911, vii, 16.

[3] The culture employed was one isolated a year previously from a facial carbuncle and continuously grown on agar in the bacteriologic laboratory of the University of Chicago.

* From the Memorial Institute for Infectious Diseases.

[4] The Journal A. M. A., Jan. 7, 1911, p. 35.

[5] Brewer and Leggett: Surg., Gynec. and Obst., 1909, ix, 293.

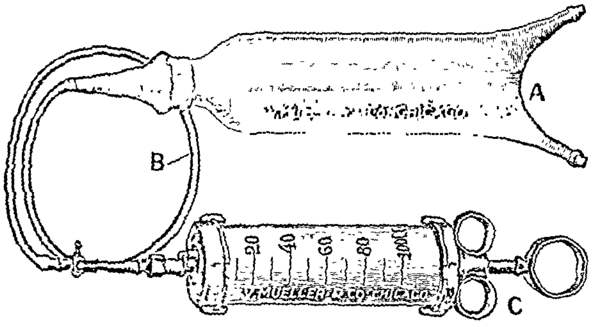
[6] Janeway: Ann. Surg., 1911, liii, 720

[7] Sorese: New-York Med. Jour., 1911, xciii, 623.

250 c.c. of blood it was decided to change transfusion tubes because of delay incident to readjusting the arms of the donor and the recipient. The remaining portion of the recipient's vein was unfortunately found to be too small to admit the cannula and in preference to operating on the other arm further work was postponed. Previous experience in performing transfusions with the Crile cannula leads us to think that veins of annoyingly small caliber as were found in this patient would be rarely encountered. As a safeguard, however, bulbs with small-sized cannula tips should be held in reserve.

Clinical improvement, as manifested by the general condition as well as by increase in the percentage of hemoglobin and in the number of red blood-corpuscles, was obtained in all patients. In the two least satisfactory cases, discussed above, in which were given respectively 300 c.c. and 250 c.c. of blood, the patients showed as much improvement as those successfully transfused by the usual artery-to-vein anastomosis. In fact, despite general opinion, 250 c.c. of blood probably equals the amount ordinarily obtained by most methods.

The other two transfusions were performed without difficulty or complication. Blood in abundance was available in both instances. The most striking result was obtained in a patient in Presbyterian Hospital, under the care of Dr. James B. Herrick and Dr. N. Sproat Heaney. The clinical findings were those of a sepsis of unknown origin complicated by uterine hemorrhages. For several days preceding transfusion the temperature, which was 103.2 F. at the time of operation, ranged from 102.5 to 105 F. Respirations before transfusion were from 40 to 44 per minute; the pulse, 140 per minute, thready, and of small volume. Blood examination showed 4,400 leukocytes, 2,800,000 red blood-cells and 45 per cent. hemoglobin. The patient was aroused with difficulty from a semicomatose condition; 1,050 c.c. of blood were transfused. Improvement in the general, physical and mental condition of the patient was immediate and remarkable. The respirations fell at once to 24 per minute. After four hours the pulse was 134, in eight hours 120, in sixteen hours 112, and in twenty-four hours 108 per minute. The temperature at the end of four hours was 100 F., in twenty-four hours, 100.6 F. During the week following, it ranged from 99 to 101 F. Examination of the blood after twenty-four hours showed 3,750,000 red blood-cells, with hemoglobin 55 per cent. "at least" (Dare). For three days the blood findings remained essentially the same, then gradually improved until the patient was discharged at the end of eight weeks with a red count of 4,600,000 and hemoglobin of 75 per cent. The leukocyte count varied from 4,400 to 6,100. Repeated daily examinations of blood-smears were negative. There were no nucleated red cells, no evidence of unusual variation in their size and no phagocytosis or other evidence of their disintegration or destruction.



Device for transfusion of blood. A, glass bulb with cannula tips; B, rubber tube fitted over bulb and connected with C; C, syringe used for exerting positive and negative pressure as desired.

Thanks are due Drs. Graham, Herrick, Irons and Heaney for clinical material furnished and interest manifested in this work.

31 North State Street.

A SIMPLE METHOD FOR THE MECHANICAL TREATMENT OF GLENARD'S DISEASE

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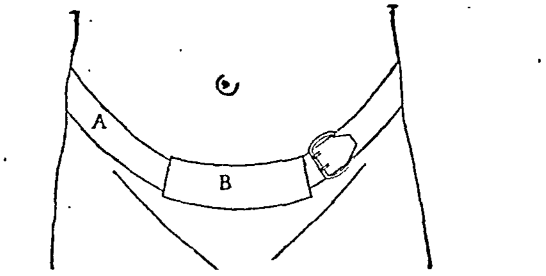
Professor of Medicine, Indiana University
FORT WAYNE, IND.

The treatment of splanchnoptosis is one of the most difficult problems confronting the practitioner, and especially is this true of the rather extreme type of cases which fall into the hands of the internist. We need all the help we can get from every possible angle, mechanical, medicinal, etc. The pathology is many-sided and its successful therapeutics must be equally so. While attending to other features of treatment, in many cases mechanical support of some sort is absolutely essential.

For many years I have been trying a great variety of mechanical supports as adjuvants in the treatment of this condition, including corsets, bandages of various sorts, with various modifications of the adhesive plaster support suggested by Dr. Rose. These adhesive strips, variously modified, have given me better results than anything else. Considerable difficulty, however, has been encountered on account of the extensive application of the plaster to the skin, the tendency being to roll up, produce cutaneous irritation and thus interfere with its continuous use. The mere application, without wrinkling, causes dermatitis in many cases. In order to accomplish permanent results, it must be kept up for a long period of time. Recently, in order to escape some of these difficulties and at the same time retain the advantages of adhesive plaster, a combination of the latter with the bandage has been used. The primary object is to get the point of support as low on the abdomen as possible. The support should be easily removed, its tension readily adjusted at any time and the area of plaster applied to the skin reduced to the minimum, in order to limit the extent of the skin irritation, when, as often happens, this results from the contact of the plaster.

A strip of zinc oxid adhesive plaster 2 or 2½ inches wide and about 5 or 6 inches long, the length varying with the size of the patient, is placed transversely across the extreme lower abdomen as nearly as possible to the pubes, the hair having been shaved clean for this purpose. To each end of this strip of adhesive plaster is attached a bandage of about the same width, long enough to reach around the body above the iliac crest, and be tied or otherwise fastened behind, or better, one end long enough to reach around and fasten at opposite end of plaster. If the ends of the plaster have a tendency to become loosened and pull up by traction of the bandage, this can be prevented by a narrow vertical strip across each end of the adhesive strap and applied to the skin above and below. The bandage itself is well padded with cotton, either folded within it or applied to the body immediately beneath it. This prevents any irritation of the skin from the bandage and permits of its being drawn as tightly as necessary in order to furnish the necessary support from below. If it is a little too tight, it can be easily adjusted and can be entirely relaxed at night if thought advisable, although I believe it is better to keep some support during the night as well as during the day. The great difficulty with the adhesive straps carried entirely around the body, is that if applied somewhat too firmly they cause irritation, and the difficulty of removal complicates their management very much. By means of this fixed point of support in the lowest zone of the anterior abdomen, the pressure is applied exactly where it should be and does the greatest possible good. Altogether, it has given me better results with less annoyance and is more easily managed than any mechanical appliance I have ever used.

Of course, a certain amount of irritation will be produced beneath the plaster in the beginning of treatment, its severity depending on the delicacy of the skin, but the occasional removal of the plaster, cleansing the skin, and using a dusting powder for twenty-four or forty-eight hours will entirely overcome it, and finally it can be used continuously. This can, of course, be done with the plasters applied according to the method of Dr. Rose. I have had incurable patients return after an interval of a year telling me that they were still unable to dispense with their adhesive straps and wore them very nearly continuously, leaving them off for a day or two at occasional intervals.



A device for the mechanical treatment of Glenard's disease. A indicates double-padded bandage; B, zinc oxid strip.

It cannot be too strongly emphasized that mechanical support is only an auxiliary in the treatment of splanchnoptosis. The fundamental defects in the musculature and other structures of the abdominal wall, the lack of tone in visceral supports, imperfect circulation and innervation, together with the neurasthenic state so often, I had almost said so constantly, associated, must all be taken into account and therapeutically met. The most brilliant results that I have obtained have followed about one month's treatment in the hospital, with massage, electricity, and such treatment of the digestive tract as the particular case requires, combined with and followed by a prolonged continuance of mechanical support, with correct living, suitable diet, etc. Many of these patients can be substantially cured in this way, even the kidney, which is, of course, usually greatly prolapsed, permanently occupying a much higher position, although it is very rare in my experience for the kidney to go back to its normal position.

In some few of these cases surgical treatment will be required, but it is surprising how many of them, even of the severer type, will yield to prolonged systematic treatment along the lines already indicated; and the very simple mechanical support above described, having the obvious advantage of costing but a few cents, thus making it applicable to all classes of patients, has proved of great assistance to me.

407 West Main Street.

New and Nonofficial Remedies

The following additional articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association. Their acceptance has been based largely on evidence supplied by the manufacturer or his agent and in part on investigation made by or under the direction of the Council. Criticisms and corrections are asked for to aid in the revision of the matter before publication in the book "New and Nonofficial Remedies."

The Council desires physicians to understand that the acceptance of an article does not necessarily mean a recommendation, but that, so far as known, it complies with the rules adopted by the Council.

W. A. Puckner, Secretary.

PANKREON. — Tannin-pancreatin-compound. — A mixture containing the active tryptic, diastatic and steatolytic ferments of the pancreas and about 8 per cent. of tannin.

It is obtained by the action of tannin on pancreatic substance.

Pankreon is a dry, grayish, odorless powder of a slightly acidulous taste. It is soluble in alkaline liquids and practically insoluble in water and acid liquids.

1 Gm. of pankreon digests in thirty minutes at least 50 per cent. of 100 Gm. of sodium caseinate dissolved in 4,000 Cc. of water.

Actions and Uses.—Pankreon has a tryptolytic, amylolytic, emulsifying and mildly astringent action. This action it is claimed is developed in the alkaline intestinal fluids, although a portion of the ferments is likely to be destroyed by the gastric juice during its passage through the stomach.

Pankreon is said to be useful in conditions of disturbed metabolism or anomalies of digestion due to functional inefficiency of the pancreas; in diarrhea, dysentery, dyspepsia, marasmus, etc.

Dosage.—For adults 0.25 to 1.0 Gm. (4 to 15 grains) and for children 0.06 to 0.25 Gm. (1 to 4 grains), three times per day.

Manufactured by the Chemische Fabrik Rhenania of Aachen, Germany. U. S. patents Nos. 685,543 and 695,254; U. S. trademark No. 36,268.

Therapeutics

TREATMENT OF POISONING

As the symptoms and treatment of poisoning are many times so similar, it seems best to divide poisons into classes, and then to describe the treatment of each class, rather than to multiply individual descriptions.

The following classification is of types of drugs. The individual drugs with references to the class to which they belong, and therefore to the treatment advisable, will be found in a table on another page.

Class 1.—Irritants of the Gastro-Intestinal Canal.
  - Acids.
  - Alkalies.
  - Irritant metallic salts.

Class 2.—Irritants of the Central Nervous System.
  - Atropin-containing drugs.
  - Caffein-containing drugs.
  - Cocain.
  - Scopolamin (hyoscin).
  - Strychnin.
  - Volatile oils.

Class 3.—Depressants of the Nervous and Circulatory Systems.
  - All cardiac drugs in large doses.
  - Coal-tar products.
  - Cyanids.
  - Hypnotics.
  - Narcotic drugs.
  - Nicotin.
  - Most phenol-containing drugs.

CLASS I.—IRRITANTS OF THE GASTRO-INTESTINAL CANAL

Most irritants in weak dilutions are astringent, while most astringents in strong solutions are irritant. The action of astringents and irritants on mucous membranes is, therefore, largely one of degree. Some astringents act chemically to form albuminates with the protein substance found on moist mucous membranes, thus coating and preventing the further irritation of the membrane. At the same time the blood-vessels of the membrane are contracted, the membrane is dried, and the secretion diminished. This is typical metallic astringent action. If this albuminate is insoluble or very slowly soluble in the media surrounding it the action just described is the only action due to the astringent, viz., there may be more or less pronounced irritation at first, but the after-effect is sedative. If, however, this albuminate tends to dissolve at its junction with the mucous membrane, the action of astringency is then continued and may become so irritating as to cause severe inflammation or with some metallic salts or acids cause ulceration and corrosion. Such drugs or preparations are called "gastro-intestinal irritants," and in poisonous doses will all produce the same immediate symptoms. Later individual symptoms or conditions develop due to the character of the substance absorbed, to its chemical nature and to the amount of local corrosion that it can cause.

Different metals have different powers of astringency and irritant action; also different salts of the same metal vary in the irritation which they will produce. The acid formed after the dissociation of the metallic ion decides the amount of irritation that the salt will cause. Also the greater the ease with which the metallic ion is dissociated from its acid ion the greater the corrosion; therefore, the soluble nitrates and chlorids are much more corrosive than the acetates, citrates and tartrates. The sulphates are between these groups in their irritant effect.

The most astringent metals in the order of their astringency are lead, iron, alum, copper, zinc and silver. The most astringent salt is lead acetate, while the most irritant salts are mercuric nitrate, mercuric chlorid and zinc chlorid. The sulphates and acetates of copper and zinc and the nitrates of sulphur and lead, if applied in weak solutions, are astringent, but are irritant if in large quantities or in strong solutions. Insoluble preparations of mercury may irritate and corrode, but insoluble salts of other metals are generally only astringent. Double salts of the metals are less likely to irritate, because they ordinarily do not precipitate albumin. A styptic strongly coagulates albumin, and hence causes a clot which stops hemorrhage.

Symptoms

The symptoms common to all gastro-intestinal irritants are irritation or corrosion of the mouth, throat and esophagus, depending on the concentration of the poison swallowed. Other symptoms are: more or less gastric pain; nausea; vomiting, first of the contents of the stomach, then of mucus, then often of blood; later diarrhea, first of the contents of the bowels, then mucus and, perhaps, blood are passed. There are more or less symptoms of shock due to the reflex action on the heart from irritation of the gastric branches of the pneumogastric nerve. The symptoms of collapse are a rapid, weak heart, dyspnea, cold surface of the body, clammy, cold perspiration, tendency to syncope, and a gradual failure of the pulse.

The symptoms of poisoning by gastro-intestinal irritants are:

Immediate Symptoms:

- Pain.
- Nausea.
- Vomiting.
- Colic.
- Diarrhea.
- Collapse.

Frequent After-Symptoms:

- Inflammation and ulceration of the mouth, throat and esophagus.
- Gastritis.
- Duodenitis (jaundice).
- Enteritis.
- Albuminuria.
- Nephritis.
- Ulceration, perforation, peritonitis.

Possible Remote Symptoms:

- Fatty degeneration of the liver, kidneys and heart.
- Strictures from the healing of the corrosions and ulcerations.

Treatment of Corrosive Poisoning

Immediate Treatment: Warm water drinks containing the antidote, if there is one (an emetic or a stomach-tube is rarely needed, and, if necessary, should be used with great caution and gentleness); albuminous and mucilaginous drinks, as milk, egg albumin, flaxseed infusions, slippery elm infusions, etc.; hypodermatic injections of morphin sufficient to stop pain and continued vomiting.

Treatment of Collapse: Rest, quiet; dry heat, especially to the region of the heart; atropin sulphate, 1/100 of a grain hypodermatically; strychnin sulphate or nitrate, 1/30 of a grain hypodermatically; repeated in three hours, if needed (large doses of strychnin are not advisable, as it cannot stimulate the heart or raise the blood-pressure as so long believed); camphor, a syringeful hypodermatically of a saturated solution in sterile olive oil (or a ready-prepared ampoule), every half hour for several doses; caffein as strong coffee, by rectal injection if there is no diarrhea.

After-Treatment: Give a saline purge, if deemed necessary. For acute gastritis give morphin sufficient to stop the pain, mucilaginous drinks, rectal alimentation. Give cardiac stimulants, if needed. Later give bismuth subcarbonate in large doses (2 grams or 30 grains) twice a day; later, a milk diet. Treat duodenitis and nephritis, if they occur. Order absolute rest in bed for one or two weeks, if the irritation or corrosion was severe, lest perforation from ulceration be precipitated. Treat ulcer of the stomach and strictures, if they occur.

CLASS II.—IRRITANTS OF THE CENTRAL NERVOUS SYSTEM

The principal symptoms of poisoning by drugs of this class are those of irritation of the central nervous system. There is restlessness and nervous excitement; there may be, later, delirium and convulsions, and, perhaps, still later, coma. The pulse is full, bounding, and generally rapid; there may even be delirium cordis or tachycardia. Respirations are increased in rapidity, the face is flushed and the skin of the body feels hot and dry, and there often is increased temperature. There may be vomiting; there often is diarrhea; there is vesical irritability, and often strangury, depending

TABLE OF SPECIAL SYMPTOMS AND SPECIAL TREATMENT OF VARIOUS POISONS

Name	Poison Class	Special Symptoms	Special Treatment	Remarks
Acetanilid	Class III	Cyanosis; lowered temperature.	Oxygen inhalations; artificial respiration; sodium bicarbonate.	Chronic poisoning causes anemia.
Alcohol (ethyl)	Class III	....	....	There may be acute delirium, in which case treat more as Class II.
Alcohol (methyl)	Class III	Often late unless dose is large.	Pilocarpin hydrochlorid in one-eighth gr dose is recommended; other treatment like Class III	More or less loss of vision by the third or fourth day.
Ammonia	Class I	May be swelling and inflammation of the bronchial tubes, hence dyspnea.	Diluted vinegar; lemon juice; olive oil; castor oil.	Stomach-tube contra-indicated.
Amyl nitrite	Class III	Respiratory and cardiac failure.	Artificial respiration; Trendelenburg position.	Treatment of poisoning by other nitrites similar.
Anilin	Class III	....	....	See treatment for acetanilid.
Antimony	Class I	Diarrhea soon occurs; late symptoms are those of Class III; circulatory depression.	Tannic acid, one-half teaspoonful, in water; later magnesium carbonate	If much of the poison has been absorbed, fatty degeneration of the organs may develop.
Antipyrin	Class III	Profuse sweating; lowered temperature.	Sodium bicarbonate	See acetanilid.
Arsenic	Class I	Frontal headache; constriction of the throat; colicky pains; eruptions on the skin.	Official antidote, ferri hydroxidum cum magnesii oxido, 3 oz.; later castor oil.	Renal inflammation is a frequent sequence.
Atropin	Class II	Flushed face; dilated pupils; dry throat; rapid heart.	Tannic acid; morphin in not too large doses as a partial physiologic antidote	Catheterize the bladder.
Belladonna	Class II	....	....	See atropin.
Bromids	Class III	....	....	Treatment similar to chloral.
Caffein	Class II	....	Dry heat to the body	....
Camphor	Class II	....	....	....
Cannabis indica	Class II	....	....	....
Cantharides	Class I	Kidney and bladder irritation; strangury; abortion.	....	....
Castor oil beans	Class I	Collapse.	....	....
Carbolic acid	Class III	....	....	See phenol.
Chloral	Class III	Pupils dilated; coma	....	Inhalations of oxygen; artificial respiration; dry heat; Trendelenburg position.
Cocain	Class II	Pupils dilated; often rapid heart; often cyanosis.	Tannic acid if the drug has entered the stomach.	If collapse, Trendelenburg position; if respiratory failure, oxygen and artificial respiration.
Codein	Class III	....	....	See morphin.
Creosote	Class III	....	....	See phenol.
Chromic acid	Class I	Often cramps in the legs	Chalk; lime water; magnesia	Correct name, chromium trioxid.
Cyanids	Class I and III.	May act like hydrocyanic acid; may cause stomach symptoms.	....	See hydrocyanic acid.
Digitalis	Class III	The cerebrum not much affected.	Tannic acid; nitroglycerin hypodermatically.	....
Ergot	Class III	Pupils dilated; cold surface of the body; circulatory depression.	Alcohol; nitroglycerin	....
Formaldehyd solution.	Class I	....	If swallowed, very weak solutions of ammonia; diluted aromatic spirits of ammonia.	If inhaled or taken in strong solution, danger of edema of the glottis.
Gelsemium	Class III	....	....	....
Hydrochloric acid.	Class I	Lips and mouth show white eschar.	Lime water; magnesia	Emetics and stomach-tube should not be used. Chalk and alkaline carbonates should not be given.
Hydrocyanic acid.	Class III	Odor of almonds; respiration and heart fail immediately.	Patient on back with feet raised; artificial respiration; ammonia inhalations; camphor and atropin injections; wash stomach with stomach tube.	....
Hyoscyamus	Class II	....	....	See atropin.
Iodoform	Class II and III.	May be symptoms of nervous excitation, with fever; later, prostration.	....	....

TABLE OF SPECIAL SYMPTOMS AND SPECIAL TREATMENT OF VARIOUS POISONS—*(Continued)*

Name	Poison Class	Special Symptoms	Special Treatment	Remarks
Lead acetate....	Class I........	Colic; muscle cramps; convulsions; stupor; coma.	Dilute hydrochloric, a teaspoonful well diluted; magnesium or sodium sulphate 30 grams (1 ounce).	Later, multiple neuritis.
Lobelia	Class III......	....	....	....
Matches	Class I.......	....	....	See phosphorus.
Mercuric chlorid (corrosive sublimate).	Class I.	Convulsions; coma; collapse...	Raw eggs and albumin water..	Late symptoms are salivation; nephritis; multiple neuritis.
Morphin	Class III......	....	....	See opium.
Muriatic acid ..	Class I.	....	....	See hydrochloric acid.
Nicotin	Class III......	....	....	See tobacco.
Nitric acid.. .	Class III......	Mouth and lips may be stained yellow.	....	See remarks under hydrochloric acid.
Nitroglycerin .	Class III......	....	....	See amyl nitrite.
Opium	Class III......	Pupils contracted; respiration slowed.	Tannic acid; atropin; wash stomach with potassium permanganate solution 1 part to 1,000.	Catheterize the bladder and wash out stomach frequently; artificial respiration as long as heart continues to beat.
Oxalic acid.....	Class I	Depressed circulation; cyanosis.	Magnesia; chalk; later, magnesium sulphate as cathartic.	Alkalies and alkaline carbonates are contra-indicated.
Paraldehyd	Class III......	....	....	....
Phenacetin	Class III......	Lowered temperature........	Sodium bicarbonate...........	See acetanilid.
Phenol	Class III......	If solution is strong, white eschar on lips and mouth; collapse; coma; urine black after standing.	Dilute alcohol 1 part to 4, or clear whisky or brandy; sodium sulphate in solution.	Avoid all oils and fats.
Physostigma....	Class III......	Pupils contracted; may cause vomiting and purging.	....	....
Physostigmin (eserin).	Class III	....	Tannic acid. Strychnin is a physiologic antidote.	See physostigma.
Phosphorus	Class I.......	Breath smells garlicky. Most serious symptoms sometimes slow in developing.	Use copper sulphate as emetic; wash stomach with 1-1,000 potassium permanganate solution. Later, magnesium sulphate.	Avoid all oils. If much absorption, likely to cause serious liver and kidney inflammation.
Pilocarpin	Class III......	....	Tannic acid; atropin hypodermatically.	....
Potassium chlorate.	Class I.......	....	....	Nephritis a frequent sequela.
Potassium hydrate.	Class I....	....	....	See ammonia.
Prussic acid....	Class III.....	....	....	See hydrocyanic acid.
Ratsbane	Class I.....	....	....	See phosphorus.
Resorcin	Class III	....	....	See phenol.
Rough-on-rats ..	Class I.	....	....	See arsenic.
Salicylic acid...	Class II....	....	....	If taken in concentrated form, treat stomach as in Class I.
Salol	Class III......	....	....	See phenol.
Santonin	Class III......	....	....	May be delirum and convulsions.
Scopolamin (hyoscin).	Class II and III.	May act like atropin, but may cause serious circulatory depression.	....	See atropin.
Silver nitrate...	Class I.......	....	Sodium chlorid (table salt solution).	....
Sodium hydrate.	Class I	....	....	See ammonia.
Stramonium ...	Class II......	....	....	See atropin.
Strophanthus ..	Class III......	....	Nitroglycerin....	....
Sulphonal	Class III......	May cause ptosis, suppression of the urine, and papular skin eruptions.	Sodium bicarbonate; later, magnesium sulphate.	Treatment quite similar to acetanilid.
Sulphuric acid..	Class III......	Lips and mouth may show black eschar.	....	See remarks under hydrochloric acid.
Tobacco	Class III......	Prostration	Tannic acid if tobacco or nicotin has been swallowed.	Trendelenburg position.
Trional	Class III......	....	....	See sulphonal.
Veratrum	Class III......	....	....	See aconite.
Veronal	Class III......	....	....	See sulphonal..

on the drug. Some drugs of the atropin series may cause vesical paresis. There are muscular twitchings; there may be cramps; and, as above stated, convulsions may occur. The pupils are of course dilated if the poisoning is by any member of the atropin series or by cocain, and they often become dilated during cerebral excitement from other members of this group.

The symptoms of poisoning by irritants of the central nervous system are:

Immediate Symptoms:

- Gastro-intestinal burning and pain, perhaps nausea and vomiting, if the poison contains an aromatic or volatile oil.
- Cerebral excitement.
- Rapid heart.
- Rapid respiration.
- Erythemas and flushing of the face and surface of the body.

Frequent After-Symptoms:

- Purging.
- Frequent urination.
- Muscular twitchings.
- Delirium.
- Convulsions.
- Coma.
- Failure of the circulation.

Possible Remote Symptoms:

- Abortion in pregnant women.
- Albuminuria and nephritis if the poison is a renal irritant as are many of the volatile oils.
- Prolonged sleeplessness and nervous irritability.

Treatment of Poisoning by Irritants of the Central Nervous System

Administer warm water with the antidote, if there is such.

Give an emetic. The emetics in the order of their strength are: mustard (a tablespoonful in a glass of warm water); ipecac (2 gm. [30 grains] of powdered ipecac, or a tablespoonful of the syrup); zinc sulphate (2 gm. [30 grains] dissolved in water); copper sulphate (0.50 gram [7½ grains] dissolved in water); apomorphin (1/10 of a grain given hypodermatically). Any of these emetics may be repeated in fifteen minutes if there is no satisfactory result. It should be remembered that apomorphin is depressant to the circulation.

Wash out the stomach by means of a stomach-tube if there is no satisfactory emesis. If the vomiting is satisfactory, continue to administer warm water until the stomach washes clean.

Administer one or more nerve sedatives. The best are bromids and chloral, and the dose depends on the character of the poison. They are best administered by the rectum, at least provided nausea and vomiting is continued after the stomach has been cleared of the poison. If there is much circulatory depression, the best sedative to administer is morphin, hypodermatically, perhaps combined with scopolamin (hyoscin). An adjunct to the action of the morphin as a central nervous sedative and as a strengthener of the circulation is ergot, given intramuscularly. If there are convulsions, inhalations of chloroform are required.

Apply dry heat to the body, if the surface is cool or there is a tendency to collapse.

If heart failure occurs later in the poisoning, from shock or from the depression caused by nausea, such circulatory stimulants should be given as camphor (a saturated solution in olive oil); strophanthin (given hypodermatically or intravenously in a dose of 1/500 of a grain); epinephrin (adnephrin, adrenalin, adrin, supracapsulin, suprarenalin) in aseptic ampoule or 1 c.c., 15 minims, of a 1 part to 10,000 solution; or intramuscular injection of some aseptic ergot preparation (1 ampoule) and repeat in an hour, if needed.

Give plenty of water with a demulcent, if there has been irritation of the stomach either from a volatile oil poisoning or from the emetic used.

CLASS III.—DEPRESSANTS OF THE NERVOUS AND CIRCULATORY SYSTEM

The symptoms of poisoning by drugs of this class are, as their name implies, those of circulatory and nervous depression. The pulse is either slow or rapid, but generally weak; the surface of the body generally becomes cold; respirations are slowed; pupils are generally dilated unless the poison is morphin or nicotin; often the patient becomes faint; drowsiness soon develops, and if a narcotic has been taken stupor soon develops; perhaps convulsions will occur; later paralysis and coma.

Immediate Symptoms (if the poison is a depressant of the nervous system):

- Depression.
- Drowsiness.
- Slow, weak pulse.
- Slowed respiration.
- Paralysis.
- Coma.

Later Symptoms:

- Muscular weakness.
- Circulatory weakness.

Immediate Symptoms (if the poison is a circulatory depressant):

- Rapid or slow, weak pulse.
- Cardiac anxiety.
- Cold, clammy perspiration.
- Face pale.
- Perhaps convulsions.
- Syncope.

Treatment

Wash out the stomach (emetics or stomach-tube, as see above).

Administer not only the chemical, but a physiologic antidote, if there is such.

Apply dry heat to the body.

If the poison was a narcotic, give cerebral and nervous stimulation, as caffein (coffee), camphor, atropin, strychnin.

If the poison was a circulatory depressant, give atropin, ergot, epinephrin or strophanthin, as above described.

Compel prolonged mental, circulatory and physical rest.

The accompanying table is arranged alphabetically.

The second column gives the class to which the poison belongs, and the treatment for this class has been given under the headings of the general treatment for each class. Therefore the number of the class to which the poison belongs refers to the treatment there outlined.

Column 3 ("special symptoms") suggests symptoms of poisoning which are characteristic of the drug, such symptoms being in addition to those which are characteristic of the class of poisons to which the drug belongs.

In the fourth column ("special treatment") is indicated any chemical or physiologic antidote that is valuable in treating poisoning by the drug, and is in addition to the general rules discussed above.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 Dearborn Avenue . . . Chicago, Ill.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

[*For other information see second page following reading matter*]

SATURDAY, OCTOBER 28, 1911

HUGHLINGS JACKSON AND NEUROLOGY

He who stimulates others to work, who unfolds a new idea, discusses a new relation between facts, or brings together a mass of hitherto uncorrelated observations, and puts them in usable form for the multitude—he is a great man. Modern commerce and applied science have been the direct result of the work of such men, but in no field are there required mental qualities of such high order as in medicine.

To wrest from the future secrets that will serve mankind requires a constructive imagination that visualizes, as though through a telescope, the hitherto unseen, combined with attention to microscopic detail and acuteness in analysis. These qualities, though rarely found combined in one mind, were realized in one of England's greatest physicians, whose death is recorded by our London correspondent.[1]

The name of John Hughlings Jackson, known all over the world through the term "Jacksonian epilepsy," stood for infinitely more than nomenclature. He has been the founder, the creator, the inspiration of English neurology for at least forty years. As far back as 1877, he had established the fact that "the cerebellum is the center for continuous movements, and the cerebrum for changing movements," and on the doctrine of the tonic nature of cerebellar activity thus established, he worked till his death. Four decades ago he defined apraxia. He gave us our knowledge of temporosphenoidal disease, of double hemiplegia, and of many of the more important manifestations of epilepsy.

He began the study of the nervous system and its diseases at a time when all knowledge concerning the subject was fragmentary and empirical. Bringing to bear on this scattered disconnected material a mind, which, as one of his contemporaries said, "combined singular acuteness in analysis with a remarkable power of philosophic thought, and wide generalization," he slowly and surely worked out the true principle of localization of function in the nervous system. To us the idea of brain localization is as familiar as that of the circulation of the blood; it is hard for us to realize that even in the latter half of the last century the only idea of cerebral localization was that which the phrenologists had distortingly adopted from the teachings of Gall and Spurzheim.

When Jackson began to study cases of nervous diseases, the French physiologic school was brilliantly to the fore. Yet as a young man he wrote: "I should be misunderstood if I were supposed to underrate the physiological study of disease of the nervous system. Indeed, I think its neglect shows want of education, but to neglect the clinical shows want of experience and sagacity. Never forget that we may run the risk of being overeducated, but undercultivated."

Jackson was the greatest scientific clinician in neurology of the nineteenth century in England. The whole of the material from which he drew his conclusions was found in the wards of a hospital. He never performed an experiment, yet he has influenced the course of neurologic medicine more profoundly than has any other one observer. Each patient was to him an example of some disturbed process, and helped to elucidate the law of normal and morbid functions. The field of his great work was the National Hospital for the Paralyzed and Epileptic, Queen's Square, where he was actively at work for forty-four years, and the London Hospital, where he served for thirty years.

The titles of the papers he published, which in 1895 filled five quarto pages, in double column, in the *London Hospital Gazette*, form in themselves a history of the growth of neurology under his compelling genius. Much of his writing that sounded obscure when published has borne fruit in the work of later neurologists; for he divined, or perceived prophetically, from his rich experience, much that has required years of patient experiment to prove. The full anatomic demonstrations of Dr. Jackson's theories and discoveries have been published only in the last four or five years; but bit by bit, from all parts of the world, have come corroborations of his outlines, and fruits ripened under another's care from the seed he so generously gave. Perhaps it is because of his extreme modesty and retiring nature, as well as the abstract nature of his studies, that even in his own country the public has not known him as one of its greatest men: but he belongs to that brilliant group which included Darwin, Huxley, Tyndall, Galton and Spencer, the latter being his warm personal friend.

He inherited his energy, courage and caution from his father, and his tender, affectionate and constant nature from his mother; but his mental stimulus, he was wont to say, came from the lectures of Sir James Paget, who was in his zenith as a teacher in Dr. Jackson's student days.

Although he was childless, his love of children was great. His quiet humor used to charm his students. He would at the end of one of his illuminating lectures caution them not to take him too seriously, as he was only a "Bedlamite theorist." It was he who after an operation in trephining expressed his regret that the opportunity of putting a joke into a Scotsman's head had been let slip.

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[1] Page 1467

Jackson's friends compared his genius to that of Samuel Johnson, but the great neurologist was gentle and polished, whereas the great lexicographer was rude and bearlike. Jackson's resemblance to his prototype was displayed, however, in his power of brushing aside all subterfuges, and going to the very essence of the matter. His was an exceptionally well-rounded character; it is a rare personality that we are resigning to the past.

HYGIENE AND RACE STAMINA

The larger effect of hygienic measures is a question which presents many moot points. From a humanitarian standpoint no one questions the duty of safeguarding by every means within the power of science the lives of the population and especially the infant population. From the standpoint of physical race betterment, however, many regard hygiene and sanitation as of doubtful or negative value, since these measures allow the weak to live and perpetuate their kind. Assuming that in a considerable proportion children who succumb to bad hygiene and defective food are inherently weak—a theory by no means universally admitted—it would be conceded that if they were aided in reaching a maturity which must be more or less defective they would transmit their weaknesses to their descendants and thus contribute measurably to the deterioration of the race as a whole. An attempt to show how this works out under actual existing conditions as between the Chinese and the western white population has been made by Prof. E. A. Ross.[1]

Ross says that, on account of lack of good hygienic conditions in China, out of ten children born, the three weakest will die in infancy and five others will probably fail to grow up, while in our own country, out of the same number of children born, only three will fail to reach maturity. This would seem to favor better hygienic conditions for the betterment of the race, yet Ross feels that there may be some doubt on this point. For, of the seven surviving, the five corresponding to the five additional Chinese who die, will, according to hypothesis, be weaker in constitution and will transmit their weaker qualities to the offspring; while the two surviving Chinese are the hardiest of the lot and will transmit their hardy qualities to their offspring, thus in the end increasing the general stamina of the race.

In order to test this idea, Ross closely questioned thirty-three physicians practicing in various parts of China, chiefly in missionary hospitals. Twenty-nine were positive that the Chinese physique evinces superiority in some respects over that of the white people of the western world. It has been found that surgical shock is rare among the Chinese, that they endure surgical operations well and recover from them, from most serious injuries and from septic conditions in an astonishing manner. They also stand higher degrees of fever, are more resistant to pus-producing germs and are very tolerant of pain, while fewer Chinese women die from puerperal fever. This applies particularly to the lower classes, who live among the most unhygienic surroundings. The percentage of recoveries in the poorly-equipped hospitals from the gravest injuries and operations equals or exceeds that under the ideal conditions of the best-equipped hospitals of Berlin or Vienna. This indicates a strong and abiding race vitality and it may reasonably be assumed that it is a direct result of the survival of the strongest, or at least most enduring, members of the race. In other words, the selective process imposed by unfavorable surroundings, has established in the Chinese a higher degree of immunity to conditions inimical to survival.

The deduction would seem to be that the way to produce a strong race well endowed with vital qualities would be for that race to multiply to excess, and then to undergo murderous reduction by exposure to disease and unhygienic conditions. A second consideration shows that this process has its drawbacks. While under poor or bad conditions the Chinese will outdo the white man, under good conditions the latter rises to a higher level of efficiency. The Chinese, who can underlive, cannot outwork the white man under the white man's conditions. In short, the low-caste Chinese seems to illustrate very well an often misapprehended fact, namely, that the survival of the fittest is not necessarily the survival of the best, the most efficient, or even the strongest; it is simply the survival of those best fitted to survive in that particular environment—and not necessarily well fitted for any other environment. Those who are fittest for a white man's environment are less fit for that of the Chinese, and vice versa. The fitness of the low-caste Chinese is fitness to endure existence on the lowest terms. On the evidence so far presented, we may dismiss the case against hygiene as an agency in the deterioration of the race with a Scotch verdict—not proven.

THE DEFENSE OF THE ORGANISM AGAINST TUBERCULOSIS

The investigations of Calmette and Guérin[1] on experimental tuberculosis have yielded certain interesting and novel results. Their investigations began with the study of the modifications of the tubercle bacillus during its passage through the digestive tract. This led to the study of a series of cultures of tubercle bacilli on potato in 5 parts beef-bile to 100 parts glycerin. A single passage on this medium increased the virulence of the bacillus very much for the guinea-pig, but, on the other hand, successive cultures led to progressive attenuation of virulence. The bacilli cultivated in the manner indicated possessed the same variations in virulence for cattle as for guinea-pigs; in cattle intravenous injection produced a febrile disease which rarely terminated fatally and in the course of which no tubercles were formed in any of the organs. A number of animals were vaccinated with increasing doses of bile bacilli, some receiving as much as 200 mg. of bacilli intravenously; of these animals, some became very cachectic, but when they were slaughtered not the faintest trace of any tuberculous lesions could be found.

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[1] Ross, E. A.: The Race Fiber of the Chinese, Pop. Sc. Monthly, October, 1911, p. 403.

[1] Calmette and Guérin: Ann. de l'Inst. Pasteur, 1911, xxv, 625.

The serum of animals which had been treated in this way was examined as to its effects on tuberculous infection in guinea-pigs and cattle. This serum was strongly agglutinating for tubercle bacilli and caused an abundant precipitate with tuberculin. In the guinea-pig the serum did not exercise any preventive or curative action. On the other hand, it seemed to hasten the development of the lesions. In cattle the results were somewhat different. While the serum did not seem to possess any immunizing or bactericidal power, even in large doses, it caused, when injected together with bile bacilli, more rapid elimination of the bacilli by the liver and intestines than usually takes place.

It was also found that the immunized animals eliminated not only the attenuated bile bacilli, but also virulent bacilli, the latter also passing through the organism without causing any tuberculous lesions. It has been noticed before that tuberculous cattle eliminate bacilli with greater rapidity than do normal animals. The general conclusion is reached that the more or less well-marked resistance to tuberculosis produced in cattle by means of diverse methods of vaccination depends on the power acquired by the organism to eliminate tubercle bacilli by way of the liver and the intestines. So long as this condition exists the tubercle bacilli do not behave as active parasites, but more like simple, inoffensive, foreign bodies.

One may regard these phenomena as another expression of the fact that the tuberculous organism possesses considerable resistance to reinfection, but the exact mechanism involved is not yet clear and presents problems for further investigation.

TYPHOID FEVER AND THE WATER OF THE GREAT LAKES

The rapid growth of cities on the Great Lakes in the United States and Canada has raised many problems for the sanitarian. It is natural that these cities should seek to obtain their water-supply from the great bodies of fresh water close at hand. It seems to have been equally natural that they should attempt to dispose of their sewage by discharging it into the lake, thus effectually preventing a nuisance by simply diluting the sewage with a large volume of oxygen-containing water. So far as the avoidance of offense to the senses is concerned this method of sewage disposal appears in most cases to have been eminently satisfactory. Not so much can be said on the sanitary side. There is evidence that even in the case of small towns and cities this practice has been accompanied by an excessive amount of typhoid fever, while in the larger cities like Chicago, Cleveland, Milwaukee and Toronto it is a familiar fact that water-borne typhoid fever has been at times a veritable scourge.

Many of the cities so situated have attempted to avoid contamination of the drinking-water with sewage by extending the water intakes far out into the lake. For a time such an expedient usually proves efficacious and a reduction in water-borne disease is noted. After a longer or shorter period, however, the increasing volume of sewage due to increase in population again makes itself felt by an alarming contamination of the water at the intakes, and eventually typhoid fever again reaches a high point. Some few cities are so placed topographically that they can take advantage of favorably situated bays or points of land to divert the flow of sewage away from the water intakes and so, it is hoped, lessen pollution of the water-supply. In some cases also there has been a misplaced reliance on prevailing winds or currents for keeping the sewage away from the drinking-water source. Exact observations with floats and bacterial tests have now shown that neither winds nor currents, nor yet local topography, can be altogether depended on to prevent occasional contamination.

The experience of practically all the large cities on the Great Lakes has followed the lines indicated above. Detroit, to be sure, has suffered less than many others because of its ability to discharge its sewage into the Detroit River at a point below its water intakes. There is, however, danger of contamination from the considerable population draining into Lake St. Clair above the intakes, and at least one serious epidemic of typhoid fever in Detroit has been attributed by high authority to water infection. Other cities have fared even worse. The city of Erie, where for years the typhoid death-rate has been very high, experienced only last winter an extremely severe explosive outbreak of water-borne typhoid fever, over 750 cases being reported in January and February, 1911. Very recently in Cleveland, Buffalo and Milwaukee, concern has been expressed over the gravity of the local situation and in some cases disinfection of the water-supply with hypochlorites has been carried out.

In view of the well-recognized danger which hangs over some of the most flourishing of our American cities the studies set on foot by the Public Health and Marine-Hospital Service on the sewage pollution of interstate and international waters are to be warmly welcomed. The first section dealing with Lake Erie and the Niagara River has lately been published.[1] Ample illustration of the conditions we have cited will be found in its pages and the publicity there given to facts long known to students of public health, should do much to stimulate action. Even if in some cases the writer's conclusions are too hasty, as appears in the case of Toledo, the mass of data contained in this report will be of great value in inducing expert study of local conditions. The conditions under which water-borne typhoid fever occurs in the cities on the Great Lakes appeal to the imagination of the average citizen, and we cannot believe that the "endless chain" of typhoid bacilli passing into the sewers and back again through the water-pipes will be allowed to continue unbroken.

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[1] McLaughlin, A. J.: Bull. 77 Hyg. Lab.

Current Comment

ACTIVE IMMUNIZATION IN DIPHTHERIA AND OTHER DISEASES

While the discovery of diphtheria antitoxin by Behring has served to revolutionize our attitude toward this much-dreaded disease, the use of antidiphtheric serum for protective purposes is not altogether satisfactory. It is possibly owing to deficiency of antibacterial powers in antidiphtheric serum that its prophylactic administration is not of more prolonged effect and sometimes even without any effect. Blumenau[1] reports the occurrence of nineteen cases of diphtheria in 348 persons who had been given the usual prophylactic treatment, the infection in several cases following two, and in one instance three, preventive doses of serum. In view of this large proportion of failures, he was led to investigate a method of active immunization against diphtheria originally proposed by Dzerjgowsky, and his results are sufficiently striking to deserve attention. It had been previously shown that the repeated subcutaneous injection of very minute doses of toxin could produce a relatively high antitoxic power in the human being, and Dzerjgowsky found that equally good results followed the application of toxin to the nasal mucosa by tampons. Blumenau used this method with seven children, and with sufficiently numerous applications he was able to raise the antitoxin content in one case to ten units per cubic centimeter, or to 1,000 times its former value. The rise in other cases was not so marked, but in all it compared favorably with, and in several instances surpassed, the antitoxic power of several individuals who apparently possessed a high degree of natural immunity. As to the permanency of the protection so acquired, data are lacking for the human being, but from results in lower animals it should be of considerable duration as compared with the very transient passive immunity conferred by the use of antitoxic serum. If Blumenau's results are supported by further work, however, the method may be found to have, as he points out, great applicability in the wholesale prophylaxis in institutions in which large numbers of children are habitually aggregated. At all events an effective, simple method of active immunization for prophylactic purposes is desirable in order to limit as much as possible the spread of diphtheria. The success of protective inoculations against typhoid is established. Now that we definitely know that the cause of measles is present in the blood in the early stages of the disease, a convenient source of the virus, whatever its nature, being available, it does not appear impossible that a method of protective inoculation against this disease may be devised. And as to scarlet fever, the demonstration by Koessler[2] that the lymph-nodes harbor a specific antigen or virus of unknown nature, furnishes a basis for the hope that new methods of protection against even this disease soon will be proposed and tried.

ELIMINATE THE TERM "ALLOPATH"

Elsewhere in this issue[3] we reproduce some correspondence between a committee representing the Fulton County (Ga.) Medical Society and the publishers of a city directory. The committee protests against the classifying of non-sectarian physicians as "allopaths." We commend the action of this Georgia society to societies all over the country, and especially to practitioners who permit themselves to be called, or who call themselves "allopaths."

SUCCESS OF COLD STORAGE IS NO GUARANTEE OF THE QUALITY OF COLD-STORAGE FOOD

In Chicago recently a banquet was given for which the menu was prepared from food which had been in cold storage for many months. The object of the banquet was to prove that food, even though stored for a long time, is both healthful and palatable. It only proved that some food may be palatable and harmless after such storage. The extensive publicity given to this banquet and its object by the energetic press bureau of the cold-storage people was therefore a very amusing feature. We are not aware that anyone has ever denied that, when properly handled and surrounded by the necessary conditions, food can be kept in cold storage in a fairly acceptable condition for comparatively long periods of time. If this banquet committee could not find, and if the public did not find, some acceptable food from among the millions of dollars' worth of ancient materials in the various warehouses, the cold storage of food products as a business would have been terminated long ago on account of financial failure. Cold storage is a good thing. It has been used, in a crude way, in country cellars and spring houses for generations. Its modern development has added immensely to the possibilities of our tables, but like many other good things, it is frightfully abused. In order to get good results, one must have good material to store, and must be able to prevent harmful changes during storage. The condemnation by governmental authorities of millions of pounds of cold-storage food shows the defects of the actual system in at least one respect. It is only by the constant vigilance of health officials that greater and more dangerous abuses are prevented. The employment of cold storage as a means of wresting unrighteous profits from the public, by buying large quantities of food products when cheap and plentiful and retailing them at higher prices when scarce, is another serious abuse, which, however, affects the pocket-book rather than the health of the people.

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[1] Blumenau: Jahrb. f. Kinderh., 1911, lxxiv, 141; abstr. in THE JOURNAL, October 14, p. 1328.

[2] Koessler: Jour. Infect. Dis., 1911, ix.

[3] Page 1473.

The fact that the banqueters found the food palatable and survived seems to us to be beside the point. If a banquet such as this had been made an adjunct to a campaign for preventing the abuse of cold-storage methods, for limiting them to their legitimate field and for perfecting the methods of handling food products, more would have been accomplished by the cold-storage people in overcoming the prejudice of the public and in popularizing cold-storage goods.

LIABILITY FOR OBLIGATIONS OF OTHERS MUST BE IN WRITING

In the Medicolegal Department of this issue,[1] appears an abstract of the decision of the Supreme Court of Oklahoma which is of practical interest to physicians. The testimony showed that the defendant asked the plaintiff, a physician, to go to see the wife of his tenant and added "I will see that you are paid." The court says that "the question was whether . . . the credit was given solely to the defendant or to the husband of the woman . . . with the understanding that if the husband did not pay the charge then the defendant would. If the former, that is, if the defendant's liability was primary, such verbal contract was valid and the defendant was liable. But if the intention was that the husband should be primarily liable and that the defendant's liability should be only collateral . . . then the contract was void as within the statute of frauds which requires promises to answer for the debts of others to be in writing." To put the language of the court in every-day terms: If A says to a physician, "Go and take care of B and I will see that you are paid," this constitutes a direct contract between the physician and A, and an oral agreement to this effect is valid and will be sustained by the courts. But if A says to the physician, "Go and take care of B and, if he does not pay you, I will," such a statement is the assumption by A of an obligation primarily incurred by B, and is not legally binding on A, unless made in writing, as the oral assumption of the obligation of another is not binding. The practical application of this important distinction is obvious. When professional services are rendered at the request of a third party from whom the physician expects to secure his compensation, either such agreements should be in writing or it should be plainly understood that the third party assumes the direct primary liability for the services rendered.

Medical News

DELAWARE

State Society Meeting.—The 122nd annual meeting of the Delaware Medical Society was held in Lewes, October 9-10, and the following officers were elected: president, Dr. Frank L. Springer, Newport; vice-presidents, Drs. Roland G. Paynter, Georgetown, and James L. Crossmore, Wyoming; secretary, Dr. George W. K. Forrest, Wilmington (reelected); treasurer, Dr. Samuel C. Rumford, Wilmington; councilor: Dr. James Beebe, Lewes; trustee of the *Delaware State Medical Journal*, Dr. George Frank Jones, Georgetown; editor, Dr. Albert Robin, Wilmington; delegate to the American Medical Association, Dr. Hiram R. Burton, Lewes, and alternate, Dr. Luther S. Conwell, Camden. Wilmington is the next meeting-place.

IDAHO

State Medical Association Meeting.—The Idaho State Medical Association held its ninth annual meeting in Boise, October 11-13, under the presidency of Dr. John W. Givens, Orofino, and elected the following officers: president, Dr. William F. Howard, Pocatello, and secretary-treasurer, Dr. Edward E. Maxey, Boise (reelected). The association pledged itself to work for the establishment of a state sanatorium for the treatment of tuberculosis, and for medical inspection in the public schools. The next meeting of the association will be held at Portland, where it will meet with the state associations of Oregon and Washington, under the head of the Northwest Tri-Medical Association.

ILLINOIS

Personal.—Dr. Nathaniel T. Stevens has been appointed local surgeon of the Illinois Central System at Clifton.——Dr. Frank R. Pitner, Clay City, said to the the oldest practitioner of Illinois, celebrated his 99th birthday anniversary, October 16.

Chicago

***Tag Day.**—The annual "Tag Day" for children, October 16,* resulted in contributions of $60,000, which is to be divided among the various hospitals and institutions for children of the city.

Personal.—Dr. Max Thorek has been appointed a member of the consulting staff of Cook County Hospital.——Dr. Mary B. White has been appointed a member of the Board of Visitors of County Institutions.

Surgical Society Election.—At the annual meeting of the Chicago Surgical Society, October 20, Dr. Frederick A. Besley was elected president; Dr. Samuel C. Plummer, vice-president; Dr. Allan B. Kanavel, secretary, and Dr. Dean D. Lewis, treasurer.

Favors Sanitarium Plans.—Informal approval of the plans for the municipal tuberculosis sanitarium was voted by the city council committee on finance, October 13. The cost of the proposed group, including lighting and sewerage, is estimated at $818,000. This will provide for 350 patients and administrative facilities. The intention is evidently to accommodate 500 patients. A site has already been purchased by the city at a cost of $158,000.

IOWA

Southeastern Physicians to Meet.—The thirty-sixth annual meeting of the Southeastern Iowa Medical Society will be held in Washington, November 16, under the presidency of Dr. Clyde A. Boice, Washington.

Drake Alumni Clinic.—The Drake Medical Alumni Association, by a special committee, is arranging for a special two-day clinic to be held at the university in Des Moines next spring. The committee consists of Drs. Charles F. Smith, Wilbur S. Conkling, Robert P. Parriot, Elmer B. Mountain, Des Moines, and Dr. George F. Jenkins, Keokuk. Invitations are to be sent to all the alumni, and the aim is to make it a brief, practical course in surgery, medicine and laboratory work.

Personal.—Dr. Charles E. Ruth, who recently returned from Ponce, Porto Rico, has located in Des Moines.——Dr. Albert A. Anderson, Des Moines, is reported to be seriously ill with septicemia due to a wound of the right hand.——Dr. John V. Littig has been appointed medical inspector of the public schools of Davenport.——Dr. Charles H. French, Cedar Rapids, is reported to be seriously ill with septicemia in St. Luke's Hospital.——Dr. Robert H. Sutton, Shenandoah, was recently presented with a gold-headed cane by the Page County Medical Association, on the occasion of the fiftieth anniversary of his entrance into medical practice.

MARYLAND

Baltimore

Medical Faculty Meeting.—The semi-annual meeting of the Medical and Chirurgical Faculty of Maryland was held at Baltimore, October 20. The principal address was delivered by Dr. Harvey W. Wiley. There were clinics and luncheons at the various hospitals and demonstrations at the Pasteur Institute. Dr. William H. Welch announced that Dr. Oliven of Germany was in Baltimore making arrangements for a large delegation of German physicians, who are coming to America to attend the International Congress of Hygiene and Demography in Washington, September, 1912. They are to be entertained in Baltimore before going to Washington. A report was submitted, favoring the establishment of a state colony to which alcoholic patients may be committed directly, without the necessity of criminal proceedings.

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[1] Page 1478

Typhoid Vaccination at Johns Hopkins Hospital.—Johns Hopkins Hospital is offering to its doctors, nurses, students and employees, the privilege of being vaccinated against typhoid fever, and many are availing themselves of the opportunity.

Personal.—Dr. William H. Welch has consented to open the bazar *for the Home of Orphans and Widows of Physicians*, November 1.——Dr. Edward C. Bubert is reported to be ill at his home.——Dr. Rupert Norton has been elected president of Johns Hopkins Hospital Medical Society.——Dr. James A. Fechtig is convalescent after an operation for appendicitis.

MASSACHUSETTS

Decision Against Health Board.—Judge Brown of the Superior Criminal Court at Salem is said to have rendered a decision October 18 that a city board of health has no power to make and enforce a rule that fruit exposed for sale shall be *covered from* the dust.

Ask Walcott's Reappointment.—More than 2,000 signatures of physicians were on the petition which Dr. Frederick C. Shattuck, Boston, presented to Governor Foss, October 13, asking for the reappointment of Dr. Henry P. Walcott, Cambridge, on the Metropolitan Water and Sewerage Commission. Dr. Walcott, whose term expired on March 20 last, has been a member of the commission since its establishment in 1895, and chairman of the State Board of Health since 1886.

Ether Day.—Ether day was observed October 16 at the Massachusetts General Hospital in Boston by the usual clinics and luncheon. In the afternoon Dr. Simon Flexner gave an address on "The Biologic Basis of Specific Therapy." The alumni met for a banquet in the evening and were addressed by Drs. Simon Flexner, New York City; Charles F. Stokes, Surgeon-General U. S. Army, and Harvey Cushing, Baltimore, who is to be in charge of the surgical side of the new Peter Bent Brigham Hospital, now in process of construction.

Medical Library Meetings.—The Medical Library Meetings, which are under the joint supervision of the officers of the Suffolk District Medical Society, those of the Medical Section and those of the Surgical Section of the same society, and of a committee of the Boston Medical Library, were resumed October 28. The subject for discussion at the first meeting is "The Recent Epidemic of Septic Sore-Throat." It will be discussed by Prof. C. E. A. Winslow, of New York; Drs. Mark W. Richardson, Samuel H. Durgin, Joseph L. Goodale and Richard M. Smith, Boston; Dr. Eugene A. Darling, Cambridge, and Dr. H. Lincoln Chase, Brookline. Hereafter these meetings will be held on the first and third Wednesday evenings of each month, beginning November 15. The topic for that date is "Pathology and Medical Treatment of Exophthalmic Goiter," by Dr. Charles F. Hoover of Cleveland, O., with discussion by Dr. Charles H. Mayo and others.

MICHIGAN

Maternity Hospital Licensed.—The board of health of Grand Rapids has voted to grant a license to the United Brothers Association Hospital, to operate a maternity hospital in conformity with the new state law.

Antituberculosis Society Issues Circular.—The *Hastings* Antituberculosis Society has issued an attractive circular giving valuable *information concerning the* care of persons suffering from tuberculosis, the means of *preventing* the spread of the disease and its cure.

New Wing of Hospital Open.—The new wing of Grace Hospital, Detroit, was open for inspection, October 2. The new building is fireproof and is equipped with most modern appliances. Dr. Harold Wilson has established a private surgical clinic at the hospital, for the operative treatment of diseases of the eye, ear, nose and throat.

Additional Medical Officers Commissioned.—The state military board is taking action to reorganize the medical department of the National Guard to conform to the federal regulations. The board recommended the following officers for commissions as first lieutenants in the medical corps: Howard A. Grube, Grand Rapids; George H. Townsend, Jackson; Floyd A. Roberts, Flint; Alfred E. Lemon, Sault Ste. Marie, and Lewis S. Ramsdell, Manistee.

Whooping-Cough Dangerous to Children.—Calhoun County Medical Society, at its recent meeting at Marshall, adopted resolutions setting forth that pertussis is one of the most fatal of the contagious diseases of childhood, and expressing the desire that through the efforts of the board of health and health officers, the public may be better instructed as to the dangers of this disease, that it may be reported, and that stringent quarantine regulations may be enforced.

Personal.—A banquet was given by the Manistee County Medical Society, October 6, in honor of Dr. Jens A. Christensen, who was about to leave Manistee to practice in Chicago.——Dr. William A. Spitzley, Detroit, has returned from Europe.——Dr. John E. Clark, Detroit, chemist of Wayne County, was thrown from his motor car in a collision with another automobile, and sustained a severe scalp wound.——Dr. and Mrs. Harry A. Haze, Lansing, have returned from Europe.——Dr. Zell L. Baldwin, Niles, has taken charge of the antituberculosis hospital at Kalamazoo.

NEBRASKA

Personal.—Dr. Susan La Flesche-Picotte, Walthill, is *reported to be seriously ill as* the result of overwork.——Dr. James W. Miller has been appointed surgeon of the Union Pacific system at Gibbon.——Dr. Albon E. Bartoo has disposed of his interests in Arcadia and will move to Brazil, South America.——Dr. John B. Fulton, Beatrice, sustained serious injuries in a fall down a stairway at his home, October 5.——Dr. Anders P. Overgaard, Fremont, was seriously injured by a fall on a cement floor, October 4.——Dr. Henry G. Leisenring, Wayne, has sold his practice and will move to San Diego, Cal.——Dr. Gustav W. Dishong, assistant superintendent of the Norfolk Insane Hospital, has been appointed superintendent of the Lincoln Insane Hospital, vice Dr. John T. Hay, *deceased.*

NEW JERSEY

Personal.—Dr. William Edgar Darnall, Atlantic City, has been appointed consulting surgeon to the North American Children's Sanitarium for the Treatment of Surgical Tuberculosis, Atlantic City.

Society Meeting.—The New Jersey State Pediatric Society at its meeting, October 28, held in Lakewood, N. J., held a symposium on "The Welfare of Young Children from the Educational Standpoint," at which Henry E. Jenkins, New York City, district superintendent of schools, discussed "The School and the Doctor;" Prof. Howard C. Warren, Princeton University, "The Home Schools for Infants at Rome;" E. R. Johnstone, superintendent of the New Jersey Training School for Feeble-Minded Girls and Boys, Vineland, "The Care and Training of Feeble-Minded Children;" and Dr. David F. Weeks, superintendent New Jersey State Village for Epileptics, Skillman, "What New Jersey is Doing for the Epileptic."

NEW YORK

Personal.—Dr. Alonzo B. Foster, Fonda, has been *appointed* coroner of Montgomery County, vice Dr. Cornelius W. De Baun, deceased.——Dr. William Charles Willis, *Patchogue*, is said to have been committed to the State Hospital for the Insane, Central Islip, October 15.

To Warn Children Against Accidents.—The trolley men of the state are perfecting plans to educate children as to the danger of accidents. With the cooperation of teachers and parents, personal talk, pamphlets of warning information and danger signs calculated to impress boys and girls are to be presented in school room, home and playground throughout the state. On blotters and other attractive souvenirs have been printed such maxims as "Don't hitch to a car, touch loose wires, play on tracks, jump off until the car stops, cross tracks till you look, or send your little brother or sister alone." Recent reports of the public service commission show that accident damages have cost the street railways of the state almost $5,000,000 in one year. Superintendent Maxwell of New York City has sent circulars to the public schools requesting that instructions be given the pupils in regard to the serious evil of jumping on the tail end of street cars, wagons and other vehicles. The principals were also asked to instruct children how to get on and off street cars safely and how to cross the street where vehicular traffic is heavy. In twenty-one months there have been 239 children killed in street accidents in *Greater New York.*

District Society Meetings.—At the fifth annual meeting of the First District Branch of the Medical Society of the State of New York, held in Yonkers, October 12, Dr. Daniel Bailey

Hardenbergh, Middletown, was elected president; Dr. John Calhoun Otis, Poughkeepsie, vice-president; Dr. Charles Ellery Denison, New York City, secretary, and Dr. George Swan Mooney, Yonkers, treasurer.——The Fifth District Branch of the Medical Society of the State of New York held its annual meeting in Utica, October 5, and elected the following officers: president, Dr. James K. Stockwell, Oswego; vice-president, Dr. Amos P. Dodge, Oneida; secretary, Dr. Frederick Flaherty, Syracuse, and treasurer, Dr. Henry A. Hoyt, Watertown.——The annual meeting of the Sixth District Branch of the Medical Society of the State of New York was held in Elmira, October 17. Dr. Frederick M. Miller, Binghamton, was elected president; Dr. Herbert W. Fudge, Elmira, vice-president, and Dr. Luzerne Coville, Ithaca, secretary and treasurer. It was decided to hold the 1912 meeting in Binghamton.——The fifth annual meeting of the Fourth District Branch of the Medical Society of the State of New York was held in Ogdensburg. Dr. Frederick G. Fielding, Glens Falls, was elected president; Dr. Silas J. Banker, Fort Edwards, vice-president; Dr. Frederick K. Resseguie, Saratoga Springs, secretary, and Dr. George H. Oliver, Malone, treasurer. Glens Falls was selected as the next place of meeting.

New York City

Harvey Lecture.—Professor Max Verworn, University of Bonn, delivers the third of the present course of lectures at the New York Academy of Medicine on Saturday evening, October 28, at 8:30, on "Narcosis."

Inoculate Militiamen Against Typhoid.—Preparations are being made to inoculate every man in the Seventy-First Infantry, N. G., N. Y., in order to prevent typhoid fever at the encampment next summer. This is the first volunteer regiment to submit to inoculation against typhoid fever.

Personal.—Dr. Stephen Smith has been elected president of the New York State Conference of Charities and Corrections.——Dr. William L. Gahagan, medical director of the United States Casualty Company, has resigned to accept the superintendency of the personal accident and health insurance department of the Globe Indemnity Company.

Deaths of the Quarter.—During the three months ended September 30 there were 18,048 deaths reported, equivalent to a death-rate of 14.38 per 1,000, a decrease of 1.15 as compared with the corresponding quarter of last year. The chief decrease was shown in diarrheal diseases of children under 5 years of age, nephritis, pneumonia, congenital debility and tuberculosis of the lungs.

Hospital Addition Opened.—The annual meeting of the Society of St. Luke's Hospital on October 18 was preceded by the formal opening of the Travers Pavilion, the erection of which was made possible by the will of Mrs. Mary Travers Heckscher which gave $250,000 for this purpose. This addition is a ten-story building, the two upper stories of which have arrangements for open-air treatment of patients.

Anesthetists Meet.—The meeting of the anesthetists of New York City and vicinity, held at 40 East Forty-First Street, Manhattan, October 28, consisted of a dinner at 6 p. m., a business session of the Long Island Society of Anesthetists for reorganization, addresses on "The Anesthetic Situation in New York," by Dr. Alfred M. Hellman and on "Personal Reminiscences and Experiences of Ten Years of Anesthetic Work," by Dr. Freeman Allen, of the Massachusetts General Hospital, at the conclusion of which the society adjourned to attend the Harvey Society lecture on "Narcosis."

Call to Fight Rabies.—The large number of persons bitten by dogs and the increase in frequency of rabies has called forth a bulletin from the department of health setting forth the urgent need of taking measures to combat present conditions. According to figures compiled by the department of health, 2,462 persons were bitten by dogs in this city from January 1 to September 1 this year, and of these, 1,743 were children. Examination of the animals killed showed six rabid cats and 192 rabid dogs. The net result was seven fatal cases of human rabies. The department of health calls for the immediate passage and the rigid enforcement of an ordinance requiring that dogs at large be either muzzled or leashed. The department also advises a campaign of educational measures in regard to the care and observation of dogs by their owners. It is thought that an adequate system of licensing by the municipal authorities might have a beneficial effect and the city of New York seems to be about the only city in which the licensing of dogs is not a function of the municipal government.

NORTH CAROLINA

Personal.—Dr. and Mrs. Charles L. Summers, Winston-Salem, will sail for Europe early next month.——Dr. Baxter S. Moore, Charlotte, will remove to Atlanta, Ga., November 1.

New Infirmary.—The executive board of the trustees of the State Hospital for Tuberculosis, Montrose, at its recent meeting in High Point, awarded the contract for the erection of a new infirmary to afford accommodation for fifty additional patients.

Courses in Sanitation at Trinity.—Trinity College, Durham, with the cooperation of its department of biology and the faculty committee on health, has arranged demonstrations and courses of instruction for its students, in the fundamentals of sanitary science, which for several years physicians urged should be an essential part of a complete modern college course.

PENNSYLVANIA

Examination of Public School Children.—Medical examination of the Lebanon public school children has been decided on, to assist in stamping out diphtheria.

Personal.—Dr. D. Walter Straub, Bethlehem, is reported to be seriously ill with septicemia.——Drs. Thomas A. Monahan, Shenandoah, and John L. Adams, Asheville, N. C., have been appointed assistant surgeons at Fountain Springs Hospital.

Conference of Secretaries.—The conference of the secretaries of the component county societies of the Medical Society of the State of Pennsylvania was held in Harrisburg, September 26, Dr. John J. Coffman, Scotland, presiding. After the completion of the literary program the members were entertained at a dinner given by the state medical society, at which Dr. Thomas S. Blair, Harrisburg, was toastmaster. Dr. Luther B. Kline, Catawissa, was elected chairman and Dr. Clarence E. Shaw, Williamsport, was reelected secretary-treasurer.

Pavilion for Sick Children.—On October 22, a pavilion for the treatment of indigent consumptive children was dedicated at the Philadelphia Jewish Sanitarium, Eagleville, Montgomery County, an institution devoted exclusively to the free treatment of tuberculosis. The pavilion has accommodations for sixteen children as well as facilities for their education. Only children in the incipient stages of the disease will be accepted. This institution was started more than two years ago and has discharged 130 patients as cured. It now has seventy-five patients and a waiting list of nearly 150.

Philadelphia

Club Reception to Clinicians.—The next reception of the Medical Club of Philadelphia will be held November 17, at which Dr. Albert J. Ochsner, Chicago, the president of the Congress of Surgeons of North America, and the president-elect will be the guests of honor.

Election in New Society.—The Philadelphia Laryngological Society, recently organized and whose first meeting was held October 25, has chosen the following officers: president, Dr. Ross H. Skillern; vice-president, Dr. George W. Mackenzie, and secretary and treasurer, Dr. Charles A. O'Reily.

Personal.—Dr. Alexander W. Biddle is recovering from the effects of a slight operation performed at the Pennsylvania Hospital.——Dr. Louis Starr sailed October 18 to spend the winter in Europe.——Dr. Charles Lincoln Furbush has returned from Europe.——Dr. Louis O. Heiland has been appointed secretary to the board of directors of Girard College.

Municipal Dental Laboratory.—Bids have been opened by the director of public health and charities for the equipment of a dental laboratory in city hall; drugs, medicines, surgical instruments and supplies and for the purchase and installation of a modern *x*-ray apparatus. The department has $1,700 for dental supplies; it has $5,922.75 for a new *x*-ray machine at Blockley and has $120 for drugs.

War on Fake Doctors.—War on fake doctors who are swarming here from "physical culture" schools in other cities is to be opened by the Philadelphia County Medical Society. At the meeting of the society October 16, a resolution was passed, providing for action at the second meeting in November toward joining forces with the district attorney in the campaign to compel the so-called "mechanotherapists" and others to discontinue the practice of medicine. These questionable commercial characters, pretending at first to give treatments only under physicians' orders, soon blossom out as doctors, thus evading the statutes on the practice of medicine.

GENERAL AND FOREIGN

Railway Surgeons Hold Meeting.—At the annual meeting of the American Association of Railway Surgeons, held in Chicago October 18-20, the following officers were elected: president, Dr. Rhett Goode, Mobile, Ala.; vice-presidents, Drs. Arthur M. Hume, Owosso, Mich.; Robert A. Kerr, Peoria, Ill.: and Henry H. Clark, McGregor, Ia.; secretary-editor, Dr. Louis J. Mitchell, Chicago (reelected), and treasurer, Dr. Henry B. Jennings, Council Bluffs, Ia.

Meeting of Soo Line Surgeons.—The Minneapolis, St. Paul and Sault Ste. Marie Railway Surgical Association held its fifth annual meeting in Chicago October 16-17, under the presidency of Dr. Albert E. Halstead, Chicago, Ill. The following officers were elected: president, Dr. Charles A. Stewart, Duluth, Minn.; vice-president, Dr. H. Jefferson O'Brien, Superior, Wis.; and secretary-treasurer, Dr. John H. Rishmiller, Minneapolis, Minn. (reelected). The next annual meeting will be held in August, 1912, in Duluth.

Honorary Degrees Conferred on Physicians.—At exercises attending the five-hundredth anniversary of the foundation of the University of St. Andrews, Scotland, the honorary degree of LL.D. was conferred on eighty-six eminent men, of whom the following were members of the medical profession: Sir Thomas Clifford Allbutt, regius professor of physic in the University of Cambridge; Sir Thomas Barlow, professor of clinical medicine, University College, London; George Andreas Berry, president of the Royal College of Surgeons, Edinburgh, and of the Ophthalmological Society of the United Kingdom: Byrom Bramwell, president of the Royal College of Physicians, Edinburgh; Robert Bridges, physician, critic and poet; Alexander Crum Brown, formerly president of the Chemical Society, chemist and physiologist; Sir Hector Clare Cameron, formerly president of the Faculty of Physicians and Surgeons, Glasgow; Francis Gotch, Waynflete professor of physiology in the University of Oxford; Peter Fredrik Holst, Christiania, president of the Norwegian Institute for Medical Science; William Williams Keen, Philadelphia, president of the American Philosophical Society; Hector Leboucq, professor of anatomy, and dean of the Faculty of Medicine in the University of Ghent; Charles Sedgwick Minot, Boston, professor of histology and embryology in Harvard Medical School and secretary of the Elizabeth Thompson Original Research Fund; Rutger Adolf Reedingius, rector and professor of pathologic anatomy in the University of Groningen; Robert Saundby, president of the British Medical Association and professor of medicine in the University of Birmingham; Edward Albert Schäfer, professor of physiology in the University of Edinburgh and president-elect of the British Association, and Johannes Veit, professor of obstetrics and gynecology, and rector of the University of Halle-Wittenberg.

LONDON LETTER

(From Our Regular Correspondent)

London, Oct. 14, 1911.

Death of John Hughlings Jackson

John Hughlings Jackson, M.D., F.R.C.P., LL.D., D.Sc., F.R.S., consulting physician to the London Hospital and the National Hospital for the Paralyzed and Epileptic, died at his residence in London at the age of 76. Born in Yorkshire, he studied medicine at St. Bartholomew's Hospital, London, and graduated at the Scotch University of St. Andrews. In 1859, largely through the introduction of Sir Jonathan Hutchinson, another Yorkshireman, who was also a schoolfellow, he was appointed lecturer on pathology at the London Hospital. He entertained the idea of pursuing a literary career and giving up medicine but was persuaded not to do so by Sir Jonathan Hutchinson, who afterward described Jackson as his "greatest discovery." In 1864 he was appointed assistant physician to the London Hospital and lecturer on physiology. In company with J. S. Ramskill and C. B. Radcliffe he founded the National Hospital for the Paralyzed and Epileptic, the home of the English school of neurology, of which he has been well described as the father. His contributions to neurology were both numerous and important. An incomplete index to his publications from 1861 to 1894 reached the extraordinary total of 202. His work on aphasia and convulsions and his description of the form of the latter to which his name has been given may be particularly mentioned, but there was scarcely a problem in the whole field of neurology that was not illuminated by his genius. With the other eminent neurologists he may be described as a great clinician, but he differed from them all in one respect: he united the speculations of the philosopher to the facts observed at the bedside. A pupil of Herbert Spencer, he applied this philosopher's doctrines of evolution to neurology. He showed how brain disease conformed to the law of "dissolution" formulated by Spencer. Reasoning in this deductive fashion he postulated the existence of three levels of nerve-centers according to their position in evolution. He showed how the phenomena of brain disease conformed to the law of dissolution in affecting first the highest centers, then the middle centers and finally the lowest. By thus combining philosophical speculation with clinical observation he achieved unparalleled success and anticipated many of the discoveries of the experimental methods. Thus in his "Study of Convulsions" he postulated the existence of a motor area in the cortex, of centers in that area, and their arrangement—a speculation subsequently confirmed by the experiments of Fritsch, Hitzig and Ferrier.

The Royal Commission on Tuberculosis

The final report of the Royal Commission on Tuberculosis has been reviewed in a previous letter (The Journal, Aug. 5, 1911, p. 491). The first two of the extensive appendixes have just been published containing complete details of the experiments and observations and calling for some further notice. They are very valuable because of the minute accuracy and detail with which a long series of experiments has been described. To determine the character of the bacilli active in the production of tuberculosis in man, cultures from fifty-four cases representative of all the common types, except lupus, were used. In the cases of generalized tuberculosis caused by bacilli admitted through the alimentary tract, cultures were isolated, not only from the glands nearest the point of entry, but also from distant lesions. In two cases, human and bovine bacilli were isolated from the same patient, but in the other cases, the bacilli were either distinctly bovine, growing with difficulty in artificial media and of high virulence, or human, growing luxuriantly and of low virulence for the rabbit, but of much lower virulence for the calf than the bovine type. Bovine bacilli were isolated from four out of ten cases of alimentary tuberculosis in children and from two cases of pulmonary tuberculosis. Four children died as a result of infection with bovine tubercle bacilli, the cause of death in one case being general tuberculosis; in the second, tuberculous meningitis; in the third, tuberculous peritonitis, and in the fourth, stricture of the intestines following tuberculous ulceration. The two pulmonary cases occurred in adults, aged 21 and 31 years, respectively.

The question of a possible modification of the bacilli from the human to the bovine type or vice versa as a consequence of residence in the human or animal body was discussed. The bovine type in man was obtained almost solely from children, in whom it had presumably entered through the alimentary canal. The disease produced varied in severity. In the majority of cases it was fatal; in the remainder, it was apparently limited to the cervical glands or was found in children who had died from other causes. Considering the many opportunities which the bovine bacillus has for entering the human body there must be many children who survive the invasion. What then is the fate of the invaders? As bovine bacilli are rarely found in the tuberculosis of adults, they must either be eventually killed or changed into bacilli of the human type. To prove the latter is very difficult. The problem has been attacked by the investigation of many different strains of tubercle bacilli from human lesions with a view to ascertaining whether there exist types intermediate between the human and the bovine, and also by the passage of various strains of tubercle bacilli through different species of animals to determine whether the properties (with regard to culture and virulence) are stable or capable of being altered. The general result of these experiments lends no support to the view that human bacilli can be changed into bovine bacilli by passage through calves or other mammals.

In a case of lupus a culture was isolated which differed from all other human bacilli grown from human tuberculosis. It possessed the cultural characters of a bovine bacillus but had a relatively low virulence for the calf. This led to an investigation to determine whether the bacilli of lupus were different from the bacilli of other forms of human tuberculosis. The general result was that cultures from lupus fall into one or other of the two main divisions of bacilli (human and bovine) as far as their cultural characters are concerned. But few possess the degree of virulence which these characters would indicate. It was thought that some of the cultures might be bovine bacilli which had become attenuated in virulence either before their entry into the human body or as a result of residence therein. Exhaustive experiments, however, showed that the lupus type cannot be regarded as intermediate between the bovine and human types but seems to be a degenerate form of the human type.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Oct. 6, 1911.

The Death of M. Troost and the Candidacy of Mme. Curie for the Academy of Science

M. Louis-Joseph Troost, member of the Académie des sciences since 1884, at which time he succeeded Wurtz, has just died, aged 85, and in consequence the question of the entry of women to the institute has been raised again. Many members of the academy are wondering if Mme. Curie would once more become a candidate. It is certain that she would now have the greatest chance of being admitted. The principal argument against her last year was the high merit of M. Branly, who is now a member of the institute. Mme. Curie would, therefore, probably have a majority of votes. It is inevitable that there would be some opposition, since many members of the academy have an intense horror of feminism, but these devotees of tradition would not be able to sway the final results.

The Consumption of Brandy

Dr. Jacques Bertillon, *chef des travaux de la statistique municipale de la ville de Paris*, has just presented to the Académie des sciences morales et politiques, an analysis showing the consumption of brandy in thirty-three large French cities. It appears that in all the consumption of brandy has diminished considerably since 1900-1901, that is to say, since the law of Dec. 29, 1897, reducing the tax on wine and beer and increasing considerably the taxes on distilled liquors. Formerly the consumption of brandy was almost the same in all the groups of cities, that is to say, from 7 to 8 liters of alcohol per year per inhabitant. It was only 2.84 liters in the country. Since 1901 it has fallen to 6 liters in small cities of 4,000 to 10,000 inhabitants, to less than that in the cities a little larger, and to a still smaller figure (4.23 liters) in the cities of more than 50,000 inhabitants. The diminution has been great, therefore, in the large cities; there has been no decrease in the country. The consumption of wine, meanwhile, has increased.

Scarcity of Milk in Paris

For some time Paris has been suffering from a scarcity of milk, which tends to become chronic, since the demand for milk in Paris amounts to 1,100,000 quarts per day, and no more than 900,000 quarts are received. It is in vain that the large milk companies have trebled the extent of territory from which they draw milk, and to-day go as far as 180 miles (300 kilometers) to obtain what they formerly obtained at 60 miles at the maximum. This insufficiency of production is due to three principal causes: the drought which has dried up the pastures; foot-and-mouth disease, which has decreased the herds, and the higher prices and smaller numbers of the dairy employees. Although the situation is not alarming for the hospitals, milk being furnished for the Public Charities by contract, it is rather disturbing for the general population. The prefect of police has accordingly interviewed the presidents of the dairy companies. Measures have been taken so that infants, sick persons and the aged shall not feel the effect of price. In all the dairies a notice has been posted requesting persons having young children or sick persons or old persons in the family to indicate the quantity of milk which is necessary for them in order that it may be reserved each day.

Measures Against Depopulation

The commission on depopulation has just terminated its labor by the adoption of the general report of its president, M. Paul Strauss, senator. Crimes against infants, more particularly infanticide, have, in our day, taken the most hypocritical and refined form, being encouraged by a doctrinal and practical propaganda. Judicial repression is altogether insufficient. Thus in 1906, out of 736 cases of concealed childbirth, 713 infants were abandoned. The commission adopted the resolution of the Ligue de la mortalité infantile, calling for a strict oversight of midwives and lying-in homes and a rigid repression of the neomalthusian propaganda by lectures, tracts, etc. They recommended, on the other hand, the encouragement of maternity by all possible means before and after birth. It is necessary to avoid overwork which exercises a bad effect on the woman and to combat the ignorance which has a large share of the responsibility for preventable accidents. The secret lying-in homes shelter future mothers who wish to hide their fault at any cost and also the *déracinées* and vagabonds. Some form of charity or mutual assistance is necessary to protect the future mother. Stations of observation are indispensable in our popular centers to insure physiologic preparation for maternity. After the accouchement a respite from work of at least four weeks is imperiously demanded. The bill now before the senate, after having been unanimously passed by the Chamber of Deputies, ought to be passed without delay. During the period of accouchement and afterward, the combat against ignorance demands especial vigilance. The infant consultation is the instrument best adapted for educating mothers and keeping the medical control of infants.

After having examined the question of children aided in various ways, M. Paul Strauss has studied the sanitary protection of children aged 1 to 14 years, and of adults. For the former he especially recommends the institution of the sanitary school record (*casier sanitaire scólaire*), such as is used in Geneva, with continued oversight and intelligent education from the point of view of hygiene and preventive medicine. School lunches, vacation colonies, stations for convalescents, should be used in the struggle against transmissible diseases, tuberculosis and degeneration.

M. Strauss showed that according to the tables drawn up for the period extending from 1898 to 1903 by M. Lucien March, head of the general statistics of France, out of 1,000 new-born infants the following number survived to one year in the countries named respectively:

France	8.435
England	8.691
Denmark	8.799
Belgium	8.880
Sweden	9.079

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Oct. 5, 1911.

Personals

September 28, Professor v. Michel, director of the Berlin University eye clinic, died at the age of 68. When some lay and medical journals about two months ago published the news that he intended to resign his position at the end of the winter semester, he contradicted it with the statement that he had not thought of leaving his service. Now, however, death has contradicted his assertion. Michel died from contracting kidney and tuberculosis. He was an excellent investigator and teacher, who had enriched his specialty with a number of works. His text-book also received a considerable circulation through several editions.

As a result of the removal of Professor Killian to Berlin, privat-docent Dr. Marx has provisionally undertaken the direction of the Freiburg laryngologic clinic.

Closing of Bilz's Quack Hospital

The renowned quack Bilz who by his vast advertising has circulated by the hundred thousands a "Nature Cure Book" (*Naturheilbuch*) published under his name, but surely prepared by some one else, has been deprived by the authorities of the concession for the maintenance of his institution located at Niederlösnitz near Dresden, on account of the objections raised on hygienic and moral grounds against the conditions existing there.

The Meeting of the German Society for the Advancement of Science

The annual *Naturforscher* congress was held this year at Carlsruhe, as usual in the latter part of September. The attendance was not so large as at previous meetings, in spite of the fact that the program of addresses and entertainments was very inviting. In the medical section a number of important subjects were treated. The pathology and therapy of exophthalmic goiter was discussed by Professor Gottlieb of Heidelberg from the pharmacologic standpoint, by Professor Simmonds, as a pathologic anatomist, by Professor Starck of Carlsruhe, as an internist from the clinical standpoint, diagnosis and therapy, and by Professor Rehn of Frankfurt a. M., with reference to the operative results. The Freiburg professors Aschoff, Krönig, de la Camp and Professor v. Beck, the surgeon of Carlsruhe, delivered addresses on thrombosis and embolism. Professor Biedl of Vienna, and Professor Morawitz of Freiburg reviewed the subject of internal secretions.

EHRLICH ON SALVARSAN

Great interest was naturally aroused by the address of Ehrlich on salvarsan, which I would like to report to your readers in detail. Ehrlich first addressed himself to a criticism of the publications regarding the injurious effects of salvarsan. He said that it was easy to show that certain injurious effects which were at first laid to salvarsan, were in fact due to other agencies. Thus the bladder disturbances depended on the use of a product that had become poisonous on account of oxidation. The same was true of other accidents. In regard to the numerous side-effects which had appeared, such as fever, headache, vomiting and diarrhea, and which occasionally assumed a serious character, Wechselmann first pointed out that these phenomena must be connected with the bacterial content of the distilled water used for solutions and showed that these practically disappeared with the use of an absolutely fresh distilled water. This peculiar phenomenon is explained by Ehrlich by the supposition that under the influence of bacteria the body cells acquire an increased sensitiveness to arsenic. This circumstance must influence the process of sterilization unfavorably, aside from the fact that the febrile reaction, when it is severe, may exercise a fatal influence on weak individuals with disease of important organs. Further Ehrlich maintains that it is possible that under such a reaction to the endotoxins, disease processes will be favored and that even the symptoms referable to the cranial nerves are connected with this fact.

NEURORECURRENCES AFTER SALVARSAN

In no other way can be explained the fact that in certain clinics, as for instance that of Finger in Vienna, such neurorecurrences are unusually frequent. Independently of this we must consider the possibility that such a stormy reaction injures the cells so as to make them supersensitive to a second injection of salvarsan. Other by-effects which have played a great rôle are those affecting the nervous system. Among these we must distinguish two groups, those occurring within a short time after the injection and those which appear later, from two weeks to one, three, or rarely four months. The first type of quickly appearing functional nerve disturbances are explained most simply by supposing that after the destruction of the spirochetes, a swelling of the affected part sets in, such as may be observed as Herxheimer's reaction in the skin under salvarsan treatment. But in a narrow bony canal such a reaction will not run so harmless a course but will cause pressure on the nerves. More important is the group of nerve symptoms, called nervous relapses or neurorecurrences, which were originally attributed to poisoning by arsenic. Dr. Benario has compared 194 nervous relapses under salvarsan treatment with 122 cases under mercurial treatment, and he was able to establish the fact that under the latter treatment the same affections, e. g. those of the auditory nerve, occur under like conditions. From this Ehrlich concludes that the opinion that nervous relapses under mercurial treatment are rare is not correct. In certain clinics an unusual number of nervous relapses under salvarsan have occurred. On the other hand in certain localities, in especially large clinics, they are practically unknown. After a thorough discussion of the factors that indicate that in these nervous relapses we have to do with the propagation of the few spirochetes which have survived, and not with an injury to the nerves, Ehrlich continues: "The cause of the nervous relapses is to be referred to the fact that almost the entire number of syphilis germs in the body have been destroyed and only isolated spirochetes remain alive. We have to do with a sterilization that is almost complete. These few germs are placed under better life conditions because their competitors have been expelled. Since from anatomic reasons the action of salvarsan is more difficult in the nervous tissues, most of the residuary spirochetes are found here and come therefore most markedly and earliest into evidence."

FATALITIES

As regards the fatal cases in connection with salvarsan, Ehrlich remarks that we have to do with a large number of treated cases and a small number of these cases are patients in whom salvarsan was tried as a remedy of last resort. When we consider that in the course of the last year several hundred thousand patients have been treated with salvarsan, the number of accidents is so small as to give no occasion for any serious objection. It may be affirmed that salvarsan has been shown by the experiences of the last year to be a relatively harmless substance. We have seen that the acute reaction to it is due to a lack in technic.

TREATMENT BY A SINGLE LARGE DOSE

Ehrlich then discusses the principle of treatment by *sterilisatio magna*. In numerous experiments the undoubted cure of severely affected animals has thus been achieved. In Russia it has been shown by wholesale experiments in spirillosis of hens and geese, that salvarsan is able: 1. to cure a severely affected animal permanently by a single injection. 2. Salvarsan has shown itself to be a really wonderful means of sterilization in relapsing fever in Russia, Spain, and the Congo. A single injection is sufficient to free the patient at once from the parasites and lead to a permanent cure. 3. The results in frambesia are quite as brilliant. In Surinam in all 900 frambesia patients were treated and of these only three relapsed. In the frambesia hospital in Surinam 828 frambesia patients were treated within a week. Two weeks later the last patient was in a condition to be discharged from the hospital and thus in the history of medicine this was the only instance in which the hospital could be closed. 4. In tertian malaria salvarsan achieves a remarkably curative effect. 5. Bilharzia seems to be sterilized by a single injection. 6. From extensive trials an injection of 30 gm. of salvarsan effects a cure in the murrain of horses (epizootic). Also in the so-called African *Rotz* a single injection of salvarsan cures the animal. Finally oriental sore which is caused by *Leishmania* is cured by salvarsan. It seems that in suitable forms of syphilis salvarsan used in sufficiently large and frequent doses is capable of effecting a complete sterilization of the body, and that in these cases results can be obtained that are not attainable by mercury. On the other hand, it seems that by a combination of salvarsan with mercury excellent results are obtained and that by means of this combination it is possible to secure results with smaller amounts of salvarsan than without it. By many authors emphasis has been laid on the point that from the sociologic standpoint our most important task is to treat syphilis in its early stages. It seems possible in over 90 per cent. of the affected cases to secure the healing of primary syphilis.

OUTLOOK

After a thorough exposition of the most suitable methods of early treatment Ehrlich concludes: If the result of securing a final cure in the great majority of cases of primary syphilis should be achieved, a very important forward step in the attempt to abolish this fearful plague would have been taken. Whether a permanent cure is possible in the later stages and to what extent must be determined by further experience.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, Oct. 10, 1911.

Some Grievances Against the Proposed New Medical Act

The government has quite recently worked out a new medical act to replace the old one (from 1801), and has invited the medical councils to cooperate in its working; the councils have unanimously refused to undertake such a task in the short space of time allotted for its accomplishment. Moreover, several features of the act have called forth violent remonstrances from the majority of the practitioners. Thus, for instance, it is intended to bring into force the "numerus clausus" as regards practitioners in towns with more than 50,000 inhabitants, and in the *Curorte* (health resorts). Free competition would thus be made impossible. Another article deals with the medical boycott. The act would nullify and make punishable all negotiations or contracts between physicians by which parts of the population, districts or towns should not receive medical help. This aims at the most useful weapon of our profession here, which made possible the successful issue of several medical strikes where contract practice and club practice were at stake. Already the councils are conducting an action of protest against the act as such, and there is no possibility that it will become law before a year. By that time the profession will have drawn up a "medical act" of its own, wherein the interests of the profession and those of the public will be brought into harmony as far as possible.

Moving of the Laryngologic and Pediatric Clinics

Within the last week the clinics for rhinolaryngology and for diseases of children have moved out of their old premises into their new grand houses. The new institutes provide for growth. Although at present they have each about 100 beds, the number can be increased by 50 per cent., if required. They are fitted most lavishly and absolutely up to date, according to the requirements of the professors (Chiari and von Pirquet). A more detailed description will be forthcoming in due time. A point worth mentioning is that in future the assistants of the clinics will not be allowed to follow up private practice in the hospital, as was hitherto the custom. The space occupied hitherto in the old house by these two clinics will be speedily converted, partly into laboratories and partly into use for new buildings.

Marriages

Harriet M. Wiley, M.D., and Edward W. Whitney, M.D., both of Northampton, Mass, at Tenants Harbor, Maine, October 12.

Clarence Adair Rhodes, M.D., Atlanta, Ga., to Miss Agnes Stewart Plummer, at Washington Grove, Md., October 12.

Richmond Favour, M.D., Boston, Mass., to Miss Dorothy Georgia M. Chapman of Bowdoinham, Maine, October 11.

Malcolm Cameron Rose, M.D., New York City, to Miss Mary Ella Dunning of West Orange, N. J., October 10.

Emory D. Bernard, M.D., to Miss Nina deWolfe, both of Port Arthur, Texas, at Beaumont, Texas, October 11.

David Barton Penniman, M.D., Argyle, Ill., to Miss Fannie Littell Rudgers of Montclair, N. J., October 4.

Walter D. Chase, M.D., Bethlehem, Pa., to Miss Helen M. Harleman of South Bethlehem, Pa., October 7.

Whedon W. Mercer, M.D., Washington, Ill., to Miss Kathryn J. Giblin of Kankakee, Ill., September 20.

Roy Hamilton Peck, M.D., Springfield, Mass., to Miss Alice Jemima Campbell, at Baltimore, October 11.

Oscar Milton Marchman, M.D., Dallas Texas, to Miss Martha Jenkins of Waco, Texas, October 26.

William Plumer, M.D., Farmington, Ill., to Miss Pearl C. Winters of Pittsburgh, Pa., September 25.

Jesse R. Kauffman, M.D., Blue Island, Ill., to Miss Alice Jane Roudthaler of Chicago, October 12.

Frederick G. Sigman, M.D., Spencer, N. C., to Miss Louise Wilson of Durham, N. C., October 8.

John W. Stevenson, M.D., Palouse, Wash., to Miss Blanche Campbell of Omaha, Neb., recently.

Elmer Le Roy Biggs, M.D., Los Angeles, Cal., to Miss Grace Wentworth of Chicago, October 12.

George T. Penn, M.D., to Mrs. Gertrude M. Hughes, both of Spokane, Wash., October 4.

Thomas J. Talbott, M.D., Baltimore, to Mrs. Mary J. Carland, at Baltimore, October 9.

J. Frank Small, M.D., York, Pa., to Miss Anna M. Howell of Harrisburg, Pa., October 4.

Louis C. Swartzlander, M.D., to Miss Mona Dillon, both of Omaha, Neb., October 25.

Juniattus A. Fisher, M.D., to Miss Emily L. Smythe, both of St. Louis, October 12.

Martin Kutscher, M.D., to Miss Helene Kahn, both of New York City, October 5.

Walter H. Pilger, M.D., to Miss Bertha Wilkins, both of Norfolk, Neb.

Deaths

Alexander Hugh Ferguson, M.D., a prominent surgeon of Chicago, died at his home in that city, October 20, from diabetes, aged 58. He was born in Ontario, and was an honor graduate of the Medical College of the Trinity University in 1881. He began practice in Manitoba in 1882, where he remained until 1894, when he moved to Chicago. He was one of the founders of Manitoba Medical College, Winnipeg; for three years was professor of physiology and histology in the institution, and for eight years thereafter professor of surgery. In 1894 he was made professor of surgery in the Chicago Post-Graduate Medical School and Hospital, and since 1900 had been professor of clinical surgery in the College of Physicians and Surgeons.

His society membership included the American Medical Association, British Medical Association (in which he served as first president of the Manitoba Branch); Chicago Medical Society (of which he was president in 1910), Western Surgical and Gynecological Society (of which he was once president), the American Surgical Association and other learned societies. In 1906 Dr. Ferguson was honored by the king of Portugal with the decoration of Commander of the Order of Christ of Portugal. His hospital appointments included those of surgeon to the Winnipeg Hospital, surgeon-in-chief to St. Boniface Hospital and chief operator at Brandon and Morden hospitals, Manitoba, and after his removal to Chicago he became surgeon to the Post-Graduate Hospital and Cook County Hospital for the Insane, and was also surgeon-in-chief to the Chicago Hospital.

Dr. Ferguson had been afflicted for many years with diabetes; recently a carbuncle on the neck developed; other carbuncles formed and a condition of general sepsis followed which, with the previously existing diabetes, produced a condition too formidable for even his great strength to resist, and he succumbed at a comparatively early age and in the full tide of his professional usefulness.

Helene Knabe, M.D., formerly state bacteriologist of Indiana, was found dead in her apartments in Indianapolis, October 24, with her throat cut. She came from Germany to this country as a young girl, and paid the expenses of her medical education by her own efforts; she graduated with honors in 1904 from the Medical College of Indiana. Immediately after her graduation, she was made supervisor of the laboratories and assistant in pathology in her alma mater, and later was appointed demonstrator of pathology in the medical department of Purdue University. In October, 1905, she was appointed assistant pathologist and bacteriologist in the Indiana State Laboratory of Hygiene and later was made state bacteriologist. She resigned from this position a short time ago to devote her time to the study of hygiene and physical culture. She was a member of the American Medical Association and the Mississippi Valley Medical Association. Dr. Knabe's untimely death at the age of 35 deprives the medical profession of an enthusiastic worker in the field of hygiene and sanitation; one whose excellent qualities endeared her to her many friends.

George W. Hogeboom, M.D. Berkshire Medical College, Pittsfield, Mass., 1864; one of the oldest practitioners of Kansas; surgeon of the Eleventh Kansas Volunteer Infantry with the rank of major during the Civil War; for several terms a member of the house of representatives and senate from Jefferson County; chief surgeon of the Santa Fe System for fifteen years and organizer of the hospital system of that road; died at his home in Topeka, October 8, from pleurisy, aged 79.

William I. Bertram, M.D. University of Berlin, Germany, 1849; said to have been the oldest practitioner of Keokuk, Iowa; assistant city physician of New Orleans in 1853 during the yellow fever epidemic; from 1862 to 1864 surgeon of volunteers with the rank of major; consul to Montevideo, Uruguay in 1872 and also consulting surgeon to the Marine Hospital at that place; died at his home in Keokuk, October 3, from senile debility, aged 85.

Alsephus T. Robertson, M.D. Jefferson Medical College, 1861; formerly a school teacher in the Choctaw Nation, but since 1864 a resident of Ashmore, Ill.; for ten years town clerk and also police magistrate, supervisor and a member of the local board of U. S. pension examiners; died at the home of his son in Denver, September, from chronic gastritis, aged 77.

Philip F. Casey, M.D. University of Buffalo, N. Y., 1882; a member of the American Medical Association; for several years physician at the California State Penitentiary, San Quentin, thereafter a practitioner in San Francisco, and since the earthquake and fire, a resident of Oakland; died at his home October 1, from heart disease, aged 57.

Elisha Eugene Gilmore, M.D. Transylvania University, Lexington, Ky., 1857; Kansas City (Mo.) Medical College, 1878; formerly a member of the American Medical Association and president of the Hodgens Medical Association; died at the home of his sons in Kansas City, May 19, from pneumonia complicating mitral insufficiency, aged 75.

Annie Rose Baker-Hainer, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1903; a member of the South Dakota Medical Association and Secretary of the Public Health Education Committee of the American Medical Association for South Dakota; died at her home in Sioux Falls, June 23, from pneumonia, aged 40.

Charles Henry Hartline, M.D. Jefferson Medical College, 1892; of Oley, Pa.; local registrar of the State Board of Health; was found dead in the woods near his home October 5, as the result of shock and hemorrhage from incised wounds of the neck and wrists believed to have been self-inflicted with suicidal intent, aged 52.

William H. H. Hagey, M.D. Rush Medical College, 1868; a member of the Nebraska State Medical Association and president of the Elkhorn Valley Medical Society of Norfolk, Neb.; secretary of the local U. S. pension examining board; died suddenly in Norfolk, October 8, from cerebral hemorrhage, aged 69.

Lester W. Shean, M.D. St. Louis College of Physicians and Surgeons, 1887; for thirty-two years a practitioner of Canaan, Maine; president of the Canaan Board of Trade, selectman and a member of the school board; died at his home October 3, from heart disease, aged 65.

Frank Byron Flanders, M.D. Harvard Medical School, 1878; a member of the Massachusetts Medical Society and for several years secretary of the Lawrence Medical Club; visiting surgeon to the Lawrence General Hospital; died at his home, September 29, aged 61.

James Watson Scott, M.D. Medical College of Indiana, Indianapolis, 1879; for twelve years an assistant surgeon at the National Military Home at Danville and its branch at Marion; died at the Danville institution, October 2, from acute gastritis, aged 54.

George P. Bailey, M.D. Dartmouth Medical School, Hanover, N. H., 1882; for three years a member of the common council of Natick, Mass., and during the last year president of the council; died at his home in Natick, October 1, from nephritis, aged 53.

James Welch Guthrie, M.D. University of Michigan, Ann Arbor, 1862; of Bedford; assistant surgeon of the Twentieth Ohio Volunteer Infantry during the Civil War; died at the home of his son in Orange City, Ia., September 27, aged 84.

Frelinghuysen H. Gulledge, M.D. New Orleans (La.) School of Medicine, 1869; local surgeon of the Illinois Central Railroad at Goodman, Miss.; died at his home in that place, June 12, from chronic interstitial nephritis, aged 65.

Joseph Oliver Andrews (license, years of practice, Indiana), for nearly fifty years a practitioner of Westland, Hancock County, died at the home of his daughter in Greenfield, Ind., July 8, from cerebral hemorrhage, aged 79.

Garland J. Watkins, M.D. University of Arkansas, Little Rock, 1897; a member of the Arkansas Medical Society, and formerly president of the Boone County Medical Society; died at his home in Bellefonte, May 1, aged 35.

George Duffield Armstrong, M.D. Jefferson Medical College, 1839; one of the oldest practitioners of Chester County, Pa.; died at his home in New London, May 19, from bronchitis following whooping cough, aged 96.

Joseph M. Hollingsworth, M.D. College of Physicians and Surgeons, Baltimore, 1886; a member of the Medical Society of the State of North Carolina; died suddenly at his home in Mount Airy, April 12, aged 55.

George Washington Smith, M.D. College of Physicians and Surgeons, Chicago, 1902; died at his home in that city, October 2, from phlebitis and cardiac dilatation following pleurisy, aged 46.

Llewellyn D. Eaton, M.D. Cleveland University of Medicine and Surgery, 1871; formerly of Palatka, Fla., but for several years a practitioner of Sanford; died at his home in that city, September 18.

Newton M. Massey (license, Michigan, 1900); for more than forty years a practitioner of Newaygo; died at the home of his son in Barryton, October 4, from cerebral hemorrhage, aged 66.

William Payne Russell, M.D. Atlanta (Ga.) Medical College, 1891; of Hayneville, Ala.; died in Montgomery, Ala., April 4, from the effect of gunshot wounds of the chest and abdomen, aged 47.

Julius L. Speas, M.D. Jefferson Medical College, 1877; a Confederate veteran of Boonville, N. C.; died in church in that place, September 24, from heart disease.

George Schoonover (license, Kansas, 1901); said to have been the oldest practitioner of Anderson County; died at his home in Garnett, October 4, aged 78.

Joseph M. Perry, M.D. Medical College of the State of South Carolina, Charleston, 1860; formerly of Lakeland, Fla.; died at his home in Pensacola, September 19.

Joseph Penn Cheney, M.D. University of Maryland, Baltimore, 1852; died at his home in Breathedsville, Md., October 3, from senile debility, aged 80.

John Daniel Lavery (license, eighteen years of practice, Michigan, 1900); died at his home in Mount Pleasant, Mich., June 7, from paralysis, aged 69.

James W. Fletcher, M.D. Cincinnati College of Medicine and Surgery, 1861; died at his home near Rufus, Ky., Oct. 9, 1910, from senile debility, aged 72.

Felix H. Johnson, M.D. Jefferson Medical College, 1869; died at his home in Gainesville, Texas, October 4, from disease of the stomach, aged 65.

Charles M. Hoag, M.D. Eclectic Medical Institute, Cincinnati, 1907; died in his home in Judsonia, Ark., August 19, from typhoid fever, aged 29.

Charles Edward Stammler, M.D. College of Physicians and Surgeons, New York City, 1885; died at his home in Brooklyn, September 28, aged 56.

John A. Francis, M.D. Medical College of Ohio, Cincinnati, 1868; died recently at his home in Covington, Ky., and was buried October 3, aged 66.

James Fair, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1883; died at his home in New Paynesville, Minn., in August.

Herbert L. Atkins, M.D. Medical College of Virginia, Richmond, 1893; died at his home in Boydton, Va., July 20.

William M. Murdock (license, North Carolina, 1876); died at his home in Balsam, April 13, from heart disease.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession.

CONVICTIONS UNDER THE FOOD AND DRUGS ACT *

(Continued from page 1385)

NICHOLS' COMPOUND KOLA CORDIAL

This drug was made by Billings, Clapp & Co., Boston, who claimed that it contained:

Kola Nut	40	grains.
Coca Leaves	40	grains.
Strychnin	1/50	grain.
Alcohol	20	per cent.
Cocain, in each ounce	0.2	

The product was declared misbranded because, while it was labeled "Nichols' Compound Kola Cordial," it was not manufactured by Nichols and it was not kola; further it did not contain 20 per cent. alcohol and neither did it contain the proportion and amounts of cocain, kola nut, coca leaves or strychnin, which the label represented it to contain. The company first pleaded not guilty but later changed its mind, and was fined $25.—[*Notice of Judgment, No. 909.*]

HARRIS' LITHIA WATER

"Nature's Remedy—Harris' Lithia Water, for the liver, kidneys, stomach and the bladder, and all affections attendant on a uric acid condition" was offered for sale in the District of Columbia. The label stated that:

> "This water is unequalled for the cure of rheumatism, gout, constipation, all forms of dyspepsia, stone in the bladder, catarrh of the stomach, Bright's disease," etc

The label also bore what purported to be a certified analysis in which the statement appeared that the water contained 2.86 grains of lithium bicarbonate to the gallon. The analysts in the Bureau of Chemistry found, however, that Harris' Lithia Water contained only about 1/830 grain of lithium to each gallon. The product was declared misbranded because it was not a lithia water and did not contain the amount of lithium bicarbonate given on the label. The consignee, Thomas H. Atkinson, of Washington, D. C., admitted the charges brought by the government. The court decided that the bottles of water might be returned to Atkinson after he had paid the cost of the proceedings and had given bond that the water should not be sold or disposed of contrary to law. [*Notice of Judgment, No. 924.*]

DR. ELDERS' CELEBRATED TOBACCO SPECIFIC

H. W. Elders of St. Joseph, Mo., shipped into the state of Michigan a quantity of a drug preparation having the name given above and under claims that were in part as follows:

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* Descriptions of ninety convictions previously reported in popular form in The Journal are issued as an illustrated pamphlet, entitled "Convictions," price 6 cents.

> "Cures Smoking, Chewing, Cigarette and Snuff Dipping Habits in three to five days."
> "It is as Certain in its Cure as are Taxes and Death sure to all."
> "Oldest, Cheapest, Best. Thousands so testify."
> "A positive cure for the 'Tobacco Heart'."
> "Contains no injurious drugs or ingredients."

Analysis by the government chemists showed that the tablets consisted essentially of cocain and cocain derivatives, strychnin and cinchona alkaloids. The cocain, strychnin and cinchona alkaloids amounted to about 3/10 of 1 per cent. The remainder of the tablets consisted of sugar and starch with a small amount of ginger, the whole being flavored with artificial oil of wintergreen. As the tablets were not a specific for the tobacco habit and as it did contain "injurious drugs or ingredients," the product was declared misbranded. Elders pleaded guilty and was fined $100 and costs. [*Notice of Judgment, No. 930.*]

CHANDLER'S HEADACHE BUTTONS

Another typical headache mixture, each "button" containing 3½ grains of acetanilid as well as caffein. The label stated that it would cure rheumatism, nervous headache, neuralgia and other things "in fifteen minutes." This, of course, was an untruth and the stuff was declared misbranded. The Chandler Medicine Company of St. Louis, who distributed this stuff, pleaded guilty and was fined $10 and costs. [*Notice of Judgment, No. 931.*]

SABINE'S BLACKBERRY SOOTHING DROPS

A preparation of this name was shipped by the A. J. Lemke Medicine Company of Milwaukee into another state. It was labeled as a "cure" for diarrhea, dysentery, colic and cramps, and pain in the stomach and was recommended for "summer complaint" and teething children. Analyzed by the government chemists, it was found to contain nearly 10 per cent. of alcohol with glycerin, sugar and oil of cassia. The nostrum was declared misbranded because of the falsity of the therapeutic claims and because the proportion of alcohol was not given. The defendant pleaded guilty and was fined $10. [*Notice of Judgment, No. 933.*]

VANI-KOLA COMPOUND SYRUP

This was a soft drink preparation made by the Vani-Kola Company of Canton, Ohio. Analysis disclosed the presence of cocain and caffein and the product was therefore deemed adulterated in that it contained deleterious ingredients. It was also declared misbranded because the quantity or proportion of cocain was not given on the label. The company was fined $25 and costs after entering a plea of nolo contendere. [*Notice of Judgment, No. 935.*]

WHITE'S HEADEASE

O. P. White of Rusk, Texas, made and sold a liquid "headache cure" which contained acetanilid, alcohol and caffein. According to the label, it "contains no . . . enslaving drugs." The jury before whom the case was tried agreed with the Department of Agriculture that acetanilid and caffein are enslaving drugs and the product was therefore misbranded. White was fined $25. [*Notice of Judgment, No. 941.*]

AMMON PHENYL

Salvadore Penny, doubtless feeling that his own name was not sufficiently imposing, did business under the style International Chemical Company, Palisades Park, New Jersey. Mr. Penny was engaged in a business that used to be very popular among a certain class of self-styled pharmaceutical manufacturers, *namely, that of selling a simple acetanilid mixture* under a pseudo-scientific and sonorous title. "Ammon Phenyl" was said to be:

> "Antipyretic Antiseptic, Antineuralgic, Antiseptic Puritas et Potentia, Non Plus Ultra Stimulant, Laxative . . . For Physicians' Prescriptions only . . . Ammoniated Pheno Acetyl, $C_6H_5NH_2$."

> "Ammon Phenyl is one of the acetyl derivatives of anilin of the Amido-Benzene Series whose base is $C_6H_5NH_2$, combined by our own special chemical process with ammonia. The presence of ammonia tends to overcome the depressing effects usually observed in other Coal Tar derivatives . . . "

And a great deal more pseudo-scientific nonsense of the same type. A sample of this wonderful chemical was analyzed by the government chemists and found to be a mere mixture of:

Acetanilid
Sodium bicarbonate
Ammonium bicarbonate

This headache remedy was declared misbranded because of the attempt on the part of the manufacturer to obscure the origin or nature of the product and make it appear that this simple mixture was a chemical compound. The inference given that the mixture did not produce the depressing effects of acetanilid was also false and misleading. In addition to this the therapeutic claims were declared false. Penny entered plea of non vult and was fined $25. [*Notice of Judgment, No. 942.*]

SMITH'S QUININETS

Smith's Quininets were sold by C. E. Rupert Smith of Philadelphia. It was labeled as "a sure cure and preventive" for a long list of ailments, although analysis showed it to consist essentially of a mixture of quinin and acetanilid. The product was declared misbranded because of the false therapeutic claims. Smith pleaded guilty and was fined $5. [*Notice of Judgment, No. 965.*]

BUCKHEAD LITHIA WATER

This water shipped by the Buckhead Springs Company of Buckhead, Virginia, was another lithia water that did not contain any measurable quantity of lithia. It was declared misbranded and as no one appeared to claim it, the courts ordered its destruction. [*Notice of Judgment, No. 968.*]

WALKER'S TONIC

Walker's Tonic Company and Sam Dreyfuss, both of Paducah, Ky., shipped a consignment of this preparation to Tennessee. It was sold as a "brain food," "heart tonic," "stomachic" and "liver regulator," and was a nostrum of the cure-all type. When analyzed, it was found to consist essentially of 18.21 per cent. alcohol, 4.02 per cent. non-volatile material, including capsicum, celery, an emodin-bearing drug and other drug extractives, the balance of the product being water. It was declared misbranded because of the falsity of the therapeutic claims. The defendant pleaded guilty and was fined $25 and costs.—[*Notice of Judgment, No. 982.*]

HAARLEM OIL CAPSULES

This product sold by the Holland Medicine Company, Scranton, Pa., was labeled "Genuine Haarlem Oil Capsules." Analysis by federal chemists showed that the preparation contained methyl salicylate which is not a normal ingredient of Haarlem oil. Various false and extravagant claims were made for the nostrum. It was declared misbranded because of the therapeutic claims and because of the presence of methyl salicylate. A plea of nolo contendere was entered by the defendant and the court imposed a fine of $10 and costs.—[*Notice of Judgment, No. 987.*]

HUMBUG OIL

Humbug Oil was the expressive and truthful title given to a nostrum shipped by Mrs. J. F. Marshall Smith of Minnesota to Utah. If no other claim than that denoted by its name had been made, Mrs. Smith could doubtless have continued to sell her nostrum unmolested. It was said, however, to "relieve diphtheria of the most malignant type." The government chemists reported that Humbug Oil consisted essentially of 20 per cent. oil of turpentine, 20 per cent. linseed oil and the balance a watery-alcoholic solution of ammonia water, ammonium salts and a volatile alkaloid, probably coniin. While the stuff was undoubtedly a humbug, it would not "relieve diphtheria of the most malignant type" and was therefore declared misbranded. The defendant was fined $5 after entering a plea of guilty.—[*Notice of Judgment, No. 988.*]

DR. MOFFETT'S TEETHINA

T. N. Flourney, who does business in St. Louis under the name of C. L. Moffett Medicine Company, shipped a consignment of Dr. Moffett's Teethina into another state. Analysis of this preparation showed the product to be a powder consisting essentially of:

Opium.
Calcium carbonate.
Calomel.
Powdered cinnamon.

This mixture was said to aid digestion, heal eruptions and sores, prevent a tendency to colic, remove and prevent worms in children, strengthen the child and make teething easy—and to do several other things. All of these claims were declared false by the government officials and on that ground the preparation was declared misbranded. Flourney pleaded guilty and was fined $10 and costs.—[*Notice of Judgment, No. 1019.*]

FITCH RHEUMATIC CURE

The Fitch Remedy Company of Racine, Wis., made this stuff, which was "guaranteed to cure the most stubborn case of sciatic or muscular rheumatism." The government chemists reported that it was found to consist essentially of rhubarb and alcohol. False therapeutic claims were the basis of the charge of misbranding brought by the government. The defendant pleaded guilty and paid the $10 fine that was imposed.—[*Notice of Judgment, No. 1024.*]

CERRODANIC CAPSULES

Samuel H. Jameson, who did business at Decatur, Ill., under the firm name of The Cerrodanic Company, made the following claims on the label of his nostrum:

"A positive cure for rheumatism."
"We are the first to discover the true cause of rheumatism."
"A radical and certain cure of this dreaded disease."

The capsules were reported by the government chemists to contain sodium salicylate, potassium nitrate and charcoal, together with a small amount of chloroform extract, containing capsicum and an unidentified oily substance and a large amount of talc and the carbonates and oxids of sodium and potassium. Because the therapeutic claims made for this preparation were false, it was declared misbranded. Jameson pleaded guilty and was fined $10 and costs.—[*Notice of Judgment, No. 1025.*]

(*To be continued*)

Correspondence

Eliminate the Term "Allopath"

To the Editor:—The following correspondence speaks for itself:

Mr. Joseph W. Hill, President,
Atlanta City Directory Company,
Atlanta, Ga.

Dear Sir:—In recent issues of the "Atlanta City Directory," the medical practitioners of the city have been classified as "Allopathic," "Homeopathic," "Eclectic," etc., and at a regular meeting of the Fulton County Medical Society, the undersigned were appointed a committee to confer with you, as president of the directory company, in regard to this classification.

Medical men may be divided into two grand classes—physicians and practitioners of exclusive systems. The adherents of the several systems which have come into existence from time to time, and some of which are now represented in this country, have adopted certain distinctive terms to designate their peculiar practice and to distinguish them from the great body of educated and scientific physicians who belong to no sect, affiliate with no "school," accept no dogma, acknowledge no creed and recognize no arbitrary limit in their practice of the healing art.

To the employment of nicknames on the part of these seceders we urge no objection, and in the use of such names by them—whatever may be their object—we have no concern. Their segregation is voluntary, and the names selected by themselves, it is presumed, are appropriate and agreeable to them.

This is not true, however, of the attempt to fix the name "allopathic" on the reputable physicians of the country. Any such epithet is objectionable and offensive to them, and is repugnant to truth. They are physicians—regular physicians, if you prefer—and it is impossible to apply a qualifying term that appropriately describes their status. They hold that it is inconsistent with the dignity of a learned and honored profession to be designated by a nickname or by any appellation of restrictive significance, and that it is entirely at variance with propriety and the facts to describe their faith or practice by a word, when they are not, in any manner, bound or limited in their views of disease, the selection of remedies or the application of remedial agents.

No descriptive term, therefore, is necessary, and none is available. They cannot properly be circumscribed, hedged in or defined. Physicians are the disciples of the whole science and art of medicine in its widest and most comprehensive sense—nothing more and nothing less—without any real or professed limitations, whatsoever.

We feel confident that, on reflection and investigation, you will coincide with these views and that you will accede to our request to eliminate, as misleading, unnecessary and unjust, this distasteful feature of your excellent work.

Awaiting your answer, we are

Yours very truly,
James B. Baird, M.D.,
John C. Olmsted, M.D.,
L. P. Stephens, M.D.,
Committee.

Dr. J. B. Baird, Chairman Committee,
Fulton County Medical Society, City.

Dear Sir:—Replying to your recent favor requesting that we discontinue the use of the term "allopath," as applied to the medical fraternity belonging to your school of medicine, beg to say that it will afford us great pleasure to comply with your request.

In publishing the city directory, it is our chief aim to give satisfaction to everybody and to be accurate in our statements.

With kindest regards, we are

Yours very truly,
Atlanta City Directory Company.
Per Joseph W. Hill.

I am informed that the objectionable term "allopathic" is in general use throughout the country among directory publishers, and I believe the medical profession should make determined resistance to the obnoxious practice. It is doubtless largely the result of ignorance on the part of publishers—an ignorance which also involves the general public and even some reputable medical men.

It will be a gracious and profitable move on the part of The Journal with its wide influence to take cognizance of this question.

James B. Baird, Atlanta, Ga.

Antifat and Society Women

To the Editor:—An editorial in The Journal, entitled "Antifat and Society Women" (Oct. 14, 1911, p. 1290), induces me to report the following, showing a dangerous effect of thyroid: About five years ago a woman, aged 42, came to me complaining that in bright light she had difficulty in seeing, all objects appearing more or less hazy; but in a subdued light, or even in comparative darkness she had no trouble. An ophthalmoscopic examination showed an apparently normal fundus, with the possible exception of slight blurring of the edges of the disk. The vision was 2/3 of normal in each eye. Perimetric examination disclosed an oval central scotoma for red and green in both eyes. Investigation of her mode of life revealed no apparent cause for this condition; she denied being addicted to either tobacco or alcohol. Repeated examination disclosed no sugar in the urine, this being the most frequent cause of a chronic toxic amblyopia, such as she was suffering from. Quite accidentally, during a subsequent examination, she volunteered the information that for a number of months she had been taking an antifat remedy recommended by a friend. Investigation revealed the fact that this patient had been taking thyroid extract for almost three months to reduce her weight. The thyroid was at once stopped; the patient was given strychnin hypodermatically, and in a few weeks the scotoma disappeared. On searching the literature at that time, I found one similar case reported by Albertsberg (*Arch. f. Augenh.* [Knapp's], January, 1904, p. 86), who cites four cases reported by Coppez. Whether any cases have been reported since that time, I am unable to say.

Emanuel F. Snydacker, Chicago.

Low Sanitary Standards in Rural Communities

To the Editor:—A Current Comment in The Journal (Oct. 7, 1911, p. 1214) leads me to describe the *status quo* of the town in which I am practicing. No doubt there are numerous parallel cases which literally "smell to heaven," while eliciting no reaction in the obtuse sensibilities of human beings. Our community has about 2,000 inhabitants, but is not incorporated, being part of the township government. It has been built up alongside a foundry which employs nearly all the men of the place; the owners of the foundry

"Cures Smoking, Chewing, Cigarette and Snuff Dipping Habits in three to five days."

"It is as Certain in its Cure as are Taxes and Death sure to all."

"Oldest, Cheapest, Best. Thousands so testify."

"A positive cure for the 'Tobacco Heart'."

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Analysis by the government chemists showed that the tablets consisted essentially of cocain and cocain derivatives, strychnin and cinchona alkaloids. The cocain, strychnin and cinchona alkaloids amounted to about 3/10 of 1 per cent. The remainder of the tablets consisted of sugar and starch with a small amount of ginger, the whole being filavored with artificial oil of wintergreen. As the tablets were not a specific for the tobacco habit and as it did contain "injurious drugs or ingredients," the product was declared misbranded. Elders pleaded guilty and was fined $100 and costs. [*Notice of Judgment, No. 930.*]

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Another typical headache mixture, each "button" containing 3½ grains of acetanilid as well as caffein. The label stated that it would cure rheumatism, nervous headache, neuralgia and other things "in fifteen minutes." This, of course, was an untruth and the stuff was declared misbranded. The Chandler Medicine Company of St. Louis, who distributed this stuff, pleaded guilty and was fined $10 and costs. [*Notice of Judgment, No. 931.*]

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(*To be continued*)

Correspondence

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We feel confident that, on reflection and investigation, you will coincide with these views and that you will accede to our request to eliminate, as misleading, unnecessary and unjust, this distasteful feature of your excellent work.

Awaiting your answer, we are

Yours very truly,
JAMES B. BAIRD, M.D.,
JOHN C. OLMSTED, M.D.,
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DR. J. B. BAIRD, Chairman Committee,
Fulton County Medical Society, City.

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JAMES B. BAIRD, Atlanta, Ga.

Antifat and Society Women

To the Editor:—An editorial in THE JOURNAL, entitled "Antifat and Society Women" (Oct. 14, 1911, p. 1290), induces me to report the following, showing a dangerous effect of thyroid: About five years ago a woman, aged 42, came to me complaining that in bright light she had difficulty in seeing, all objects appearing more or less hazy; but in a subdued light, or even in comparative darkness she had no trouble. An ophthalmoscopic examination showed an apparently normal fundus, with the possible exception of slight blurring of the edges of the disk. The vision was 2/3 of normal in each eye. Perimetric examination disclosed an oval central scotoma for red and green in both eyes. Investigation of her mode of life revealed no apparent cause for this condition; she denied being addicted to either tobacco or alcohol. Repeated examination disclosed no sugar in the urine, this being the most frequent cause of a chronic toxic amblyopia, such as she was suffering from. Quite accidentally, during a subsequent examination, she volunteered the information that for a number of months she had been taking an antifat remedy recommended by a friend. Investigation revealed the fact that this patient had been taking thyroid extract for almost three months to reduce her weight. The thyroid was at once stopped; the patient was given strychnin hypodermatically, and in a few weeks the scotoma disappeared. On searching the literature at that time, I found one similar case reported by Albertsberg (*Arch. f. Augenh.* [Knapp's], January, 1904, p. 86), who cites four cases reported by Coppez. Whether any cases have been reported since that time, I am unable to say.

EMANUEL F. SNYDACKER, Chicago.

Low Sanitary Standards in Rural Communities

To the Editor:—A Current Comment in THE JOURNAL (Oct. 7, 1911, p. 1214) leads me to describe the *status quo* of the town in which I am practicing. No doubt there are numerous parallel cases which literally "smell to heaven," while eliciting no reaction in the obtuse sensibilities of human beings. Our community has about 2,000 inhabitants, but is not incorporated, being part of the township government. It has been built up alongside a foundry which employs nearly all the men of the place; the owners of the foundry hold title to a large section of the dwellings. There is no sewer system and no public water-supply, a matter of surprise in view of the fact that the inhabitants are mostly American-born. In three squares of the section owned by the foundry authorities, the water-closets are without vaults and all overflow into open drains in the rear alleys, from which the contents are carted away at irregular intervals. In three other squares of this section the water-closets abut on and overflow into the streets. The supply of drinking-water of the residents of this section comes from wells in close proximity to these outhouses. A one-room school housing seventy pupils, with a triangular playground about 40 feet in its greatest dimension, is situated directly between and separates these two sections. The health standards in this place are markedly low, but the place is lacking in representative citizens informed and disinterested enough to demand redress. There is a local board of health, but it fails to act in the matter. An appeal to the state board of health elicits the information that it has no power to act in cases in which the nuisance is not a proved source of contagion. I believe that, for the proper application of the remedies suggested in the Current Comment, a radical broadening of the power of state health boards is demanded, since the members of local boards are usually incompetent to deal efficiently with questions of sanitation. Philip J. Dorety, M.D., Florence, N. J.

Thrombosis of the Mesentery Diagnosed Before Death

To the Editor:—I take exception to the statement of Dr. R. W. Wakefield in his article, "Thrombosis of the Mesentery," etc. (The Journal, Oct. 14, 1911, p. 1286), that "thrombosis of the mesentery . . . is never diagnosed, except at operation or post mortem." I recall a case in which I made a necropsy several years ago at the University Hospital, in which an ante-mortem diagnosis was correctly made by Dr. Alfred Stengel. The most striking of the symptoms was sudden severe abdominal pain. Autopsy revealed a thrombus in the superior mesenteric artery close to its origin, with corresponding segmental gangrene of the ileum.

Penn G. Skillern, Jr., Philadelphia.

Postoperative Constipation

I cannot agree with Dr. S. T. Pope (The Journal, October 21, p. 1359) that postoperative constipation is not harmful, or that it never causes auto-intoxication. In September a case in the Akron City Hospital after operation (performed for me by a surgeon) resulted in stasis of the intestine. The following failed to produce a movement: castor oil, enemata, aloin-belladonna-strychnin-cascara pills, cascara alone, phenolphthalein, etc., all repeated several times. Meanwhile the temperature climbed up day by day to over 103 F. Finally, twelve ounces of fluid citrate of magnesia did the work, and the temperature dropped to normal.

A. S. McCormick, Akron, O.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

DEFINITION OF THE WORD MORON

To the Editor:—In some recent medicolegal data I have seen used several times the word "moron." In consulting medical dictionaries and medicolegal works, I have not found a satisfactory definition. It seems to be derived from the Greek word *μωρία*, meaning madness, dementia or folly. Please give the accepted definition of the word. E. Moore Fisher, M.D., Wilmington, Del.

Answer.—Moron is a term applied in the classification of feeble-minded or subnormal children and indicates a high-grade feeble-minded child as distinguished from the imbecile or the idiot. The word, as our correspondent surmises, is from the same root as the Greek *μωρία*, folly, deing derived from the adjective *μωρός*, foolish. The English word "fool," as formerly used, describes exactly the individual designated by the term moron. Defectives have been divided into three classes: (1) those who never advance beyond the mental age of 3—these are the idiots; (2) those so retarded that they never advance beyond the mental age of 7—these are the imbeciles; (3) those so retarded that they never advance beyond the mental age of 12—these were formerly classed as high-grade feeble-minded children, but are now designated as "morons." Such children, if sufficiently high-grade to be sent to school, will always be behind and will reach their final mental development at the 12-year-old level. The moron can be trained to do a great many things but can never be made normal nor competent to take care of himself without direction. It is said that statistics show that from 1 to 2 per cent. of all school children belong to this type of feeble-minded. In a study of nearly 10,000 feeble-minded children, H. H. Goddard ("Subnormal Children," *Training School*, September, 1910) finds that the morons not only are subnormal mentally but show decided deviation from the normal in their growth. They cease growing from two to three years earlier than normal children, although this is not so apparent during the school age. As tested by the dynamometer, they have a capacity of from 20 to 30 per cent. of normal children. From among them come the dullards, and often the truants and incorrigibles.

PROCHOWNICK DIET IN PREGNANCY

To the Editor:—Please give details of the Prochownick diet and indications for its use. F. W. L.

Answer. For patients threatened with dystocia on account of a contracted pelvis, excessive development of the fetus with normal pelvis or fat and weak abdominal walls, Prochownick proposed a diet for the last eight weeks of pregnancy which should decrease the size and weight of the child, while strengthening the mother. The essential features of the diet are the withholding of carbohydrates and fluids and the giving of sufficient amounts of proteids. It is practically an antifat diet.

The following is the daily bill of fare:

Morning, one small cup of coffee without sugar; a small, thin piece of bread (¾ of an ounce).

Noon, all kinds of meat, fish without sauces, eggs, a little green vegetables, salad and cheese.

Evening, same as at noon, one medium piece of bread (1½ ounces) butter, eggs and meat.

If the patient is accustomed to the use of alcohol, a small bottle of red or white wine is allowed, or an equal quantity of water may be taken during the day.

Large quantities of liquids, soups, potatoes, desserts, sugar, etc., are forbidden.

Such a diet provides about 125 gm. of proteids giving 500 calories; 100 gm. of carbohydrates having 400 calories and 100 gm. of fat having 900 calories or in all about 1,800 calories a day.

Fat patients with weak muscles improve physically and mentally on this diet and come to labor in a much improved condition. As to the effect on the child, Prochownick and his followers assert that it will weigh a pound less than it would in the absence of the diet. The fat of the new-born, which amounts to 1 or 2 pounds, is laid on during the last eight weeks of pregnancy; the diet prevents this fat deposit. The child looks wrinkled, the head sutures are larger, and the head molds much better in its passage through the obstetric canal.

While the favorable effect of the diet is acknowledged by all, the results reported by Prochownick and a number of other good observers are such as to justify its adoption in proper cases. It is indicated, as already intimated, in women who are not very thin and anemic and who have a moderately contracted pelvis, conjugata vera between 8.5 and 10 cm., and especially in such multiparæ who have had a difficult labor. It is also indicated in a woman with a normal pelvis who has previously had a very large child and hard labor. Likewise it is indicated in a woman who has fat, weak muscles in whom dystocia may be expected due to insufficiency of the forces of labor.

The Public Service

Medical Officers, U. S. Army

Changes during the week ended Oct. 21, 1911.

Feely, James F., acting dental surgeon, left his home, Philadelphia, October 13, for his station, Ft. Slocum, N. Y.

McIntyre, H. B., captain, left Ft. Caswell on leave of absence for three months.

Fuffner, E. L., major, returned to Ft. Missoula from leave of absence.

Sheckley, M. A. W., major, on arrival of the *Sherman* will accompany the 146 C. A. to Ft. H. G. Wright, N. Y., then proceed to his station, Ft. Niagara.

Griffin, A. M., M.R.C., on arrival of the *Sherman* will accompany the 2nd Battery 20th Inf. to Ft. *Douglas, Utah, then proceed to* his station, Ft. Riley, Kan.

Mason, G. L., dental surgeon, reports his arrival at Ft. Omaha, Neb.

Heterick, R. H., lieut., reports his return to Ft. Brady, Mich., from leave of absence.

Bushnell, G. E., colonel, reports his departure from the Army General Hospital, Ft. Bayard, N. M., on thirty days' leave.

Sherwood, C. E., acting dental surgeon, reports his departure from Greenfield, Mass., for Columbus Barracks, O. (to obey his first order).

Feely, James F., acting dental surgeon, reports arrival at Ft. Slocum, N. Y., for duty.

Garcia, L. C., lieut., granted leave of absence for three months on surgeon's certificate of disability.

Boehs, C. J., M.R.C., returned from duty at Plattsburg Barracks, N. Y., and order to Ft. Banks, Mass., for duty.

Sanford, J. L., M.R.C., relieved from duty at Ft. Ruger, H. T., and will sail on the transport leaving Manila Oct. 15, 1911, for San Francisco, and on arrival will proceed to his home and stand relieved from active duty in the M.R.C.

Griffin, A. M., M.R.C., granted leave of absence for one month and twenty days, with permission to apply for an extension of one month, to take effect on relief from duty with troops at Ft. Douglas, Utah.

Crosby, W. D., lt.-col., left Soldiers' Home, Washington, D. C., for Army and Navy General Hospital, Hot Springs, Arkansas, for treatment.

Greenleaf, H. S., major, granted leave of absence for three months.

Sherwood, C. E., acting dental surgeon, reports his arrival at Columbus Barracks, Ohio, for duty.

Wing, F. F., dental surgeon, left Ft. D. A. Russell, Wyo., for Ft. Lincoln, N. D., for temporary duty.

Holmberg, C. E., lieut., returned to Ft. Bayard, N. M., from leave of absence.

Brooke, Roger, major, arrived in the U. S. and reported for duty at the U. S. Army General Hospital, Presidio of San Francisco.

Weed, M. D., lieut., returned from duty on the *Sherman* and assigned to duty on the *Thomas* as surgeon.

Huber, E. G., lieut., granted leave for one month about Oct. 15, and authorized to await at Nagasaki the arrival of the transport to leave Malla Nov. 15, 1911.

Parce, A. D., lieut., granted leave of absence for one month and fifteen days about Oct. 4, 1911, and authorized to await at Nagasaki the arrival of the transport to leave Manila Nov. 15, 1911.

Medical Corps, U. S. Navy

Changes during the week ended Oct. 21, 1911.

Miller, O. J., acting asst.-surg., appointment revoked from Oct. 21, 1911.

Tolfree, H. M., surgeon, detached from the navy recruiting station, Atlanta, Ga., and ordered to duty at the naval hospital, Norfolk, Va.

Jenness, B. F., P. A. surgeon, detached from the naval hospital, Norfolk, Va., and ordered to the navy recruiting station, Atlanta, Ga.

Stuart, M. A., P. A. surgeon, detached from the *Franklin* and ordered to duty at the naval hospital, Norfolk, Va.

Mann, Jr., W. L., asst.-surg., detached from the *Tennessee* and ordered to the *Hannibal*.

Stone, E. P., medical inspector, detached from duty at the naval hospital, Canacao, P. I., and ordered to naval hospital, Mare Island, Cal., for treatment.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POSTGRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

NEWSPAPER ENDORSEMENTS OF NATIONAL HEALTH LEGISLATION

The newspapers are giving an increasing amount of space to the endorsement of public health legislation. The duty of the state to protect the public health is now being urged by many of our leading dailies and sentiment is rapidly growing in all parts of the country in favor of advanced state activity on this subject. It is only possible to reprint an occasional newspaper editorial, from time to time, for the information of the readers of THE JOURNAL. A recent issue of the Spokane *Review* contained an excellent editorial entitled:

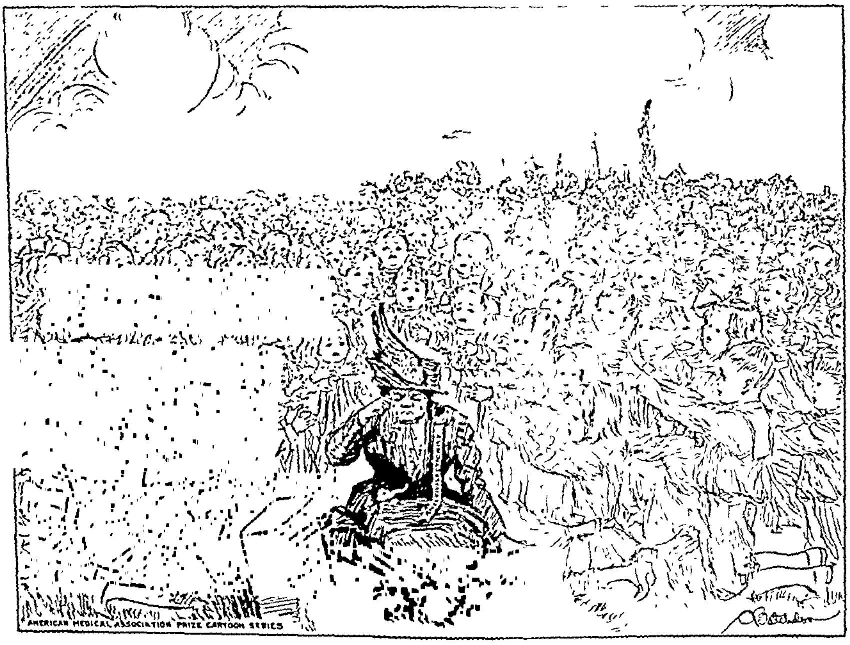
CARE OF HEALTH FALLS WELL WITHIN THE SPHERE OF THE STATE

"The American Medical Association pursues a statesmanlike policy in pushing doctors into the lecturing field as apostles of the gospel of health and of national conservation of human health.

"The *Spokesman-Review* has always accepted the view expressed by Gladstone that the care of health, both that of the individual and that of the community, falls well within the sphere of the state and the legitimate functions of the government.

"*A great authority on the value of man said that he is of infinite worth. Economists have estimated the* annual cost of avoidable diseases to a country as amounting to millions on millions of money. But governments expend immense amounts *on preventing dis*ease among the animals used by men and practically nothing to avoid the needless diseases of human beings.

"This is putting the cart before the horse. It betrays an *inverted* sense of relative values. If the *national government* has in ten years spent $40,000,000 to protect the health of crops and animals *it may logically and* consistently be expected to spend more for the health of the toiling men and loving women and dear children, that are worth infinitely more than grains, fruits, donkeys and cows."


AMERICAN MEDICAL ASSOCIATION PRIZE CARTOON SERIES

"PUPPY LOVE" vs. LOVE FOR HUMANITY

FALSE SENTIMENT CANNOT PREVAIL AGAINST THE PLEA OF HUMAN LIFE.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

[NOTE.—The pamphlets containing the outline of the postgraduate study course for county societies for the coming year are ready for *distribution*. Secretaries of county societies can secure supplies by writing to the Secretary, Council on Health and Public Instruction, American Medical Association, 535 Dearborn Ave., Chicago.]

Second Month—Fourth Weekly Meeting

ACUTE TRAUMATIC ABSCESS OF BRAIN[1]

PATHOLOGY: Compound fracture, injury to meninges and cortex, character and quantity of pus, changes in meninges and cortex, granulation and cicatrization.

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[1] Starr: Medical Record, March 10, 1906. Spiller: Univ. of *Penn Med Bull.*, October, 1906. Ballance: *Surgery of the Brain.* Macewen: Brit. Med Jour., July 30, 1904.

SYMPTOMS: Local evidences of sepsis, pulse and temperature, focal symptoms. Differentiate from meningitis.

TREATMENT: Indications for operative treatment.

CHRONIC TRAUMATIC ABSCESS OF BRAIN

PATHOLOGY: Secondary to pus in skull, foreign bodies, ear, nose, thorax. By metastasis. Sinus-thrombosis. Location of abscess, abscess membrane, mode of extension, rate of growth.

SYMPTOMS: (1) Primary symptoms, cause and significance. (2) Latent period, length, usual symptoms. (3) Secondary symptoms. (4) Terminal period.

TREATMENT: Indications for exploring or trephining.

TUMORS OF BRAIN[2]: VARIETIES, PATHOLOGY AND INCIDENCE

General Symptoms: Headache, optic neuritis, vomiting, giddiness, mental disturbance. Papilledema.[3]

Localizing Symptoms: (a) Central motor area, signal symptom, extension, paralysis or anesthesia. (b) Prefrontal region, mental symptoms, later symptoms. (c) Parieto-occipital lobe, aphasia. (d) Occipital lobe. (e) Temporal lobe. (f) Basal ganglia. (g) Pons and medulla. (h) Cerebellum.

TREATMENT: Indications for cerebral decompression.[4]

Monthly Meetirg

Indications for Operative Treatment of Fractures of the Base of the Skull.

The Operability of Tumors of the Brain.

Indications for Cerebral Decompression and Technic.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARKANSAS: Regular, Little Rock, November 14. Sec., Dr. F. T. Murphy, Brinkley; Homeopathic, Little Rock, November 14. Sec., Dr. P. C. Williams, Texarkana.

CONNECTICUT: Regular, City Hall, New Haven, November 14. Sec., Dr. Charles A. Tuttle, 196 York Street; Homeopathic, Grace Hospital, New Haven, November 14. Sec., Dr. Edwin C. M. Hall, New Haven; Eclectic, Hotel Garde, New Haven, November 14. Sec., Dr. Thomas S. Hodge, 19 Main Street, Torrington.

FLORIDA: Regular, Jacksonville, November 7-8. Sec., Dr. J. D. Fernandez.

LOUISIANA: Homeopathic, New Orleans, November 13. Sec., Dr. J. T. Crebbin, 1207 Maison Blanche Building.

MAINE: City Council Rooms, Portland, November 14-15. Sec., Dr. F. W. Searle, 776 Congress Street.

MASSACHUSETTS: State House, Boston, November 14-16. Sec., Dr. Edwin B. Harvey.

NEVADA: Carson City, November 6. Sec., Dr. S. L. Lee.

TEXAS: Forth Worth, November 28. Sec., Dr. J. D. Mitchell.

WEST VIRGINIA: Hotel Waldo, Clarksburg, November 13-15. Sec., Dr. H. A. Barbee, Point Pleasant.

Kansas June Report

Dr. H. A. Dykes, secretary of the Kansas Board of Medical Registration and Examination, reports the written examination held at Topeka, June 13-15, 1911. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 66, of whom 46 passed and 20 failed, including one chiropractic. The following colleges were represented:

College PASSED	Year Grad.	Per Cent.
University of Colorado	(1911)	93
Howard University, Washington, D. C.	(1910)	92
Chicago College of Medicine and Surgery	(1911)	83
Illinois Medical College	(1910)	87
College of Physicians and Surgeons, Chicago	(1900)	91
University of Kansas	(1911)	77, 78, 80, 81, 83, 83, 86, 86, 87, 87, 87, 88, 88, 89, 90, 93.
Kansas Medical College	(1894) 78; (1911)	78, 80, 84, 84, 85, 85, 86, 87.
College of Physicians and Surgeons, Kansas City	(1904)	77
University of Louisville	(1911)	76
University of Michigan, Dept. of Med. and Surg.	(1885)	86
Eclectic Medical University, Kansas City	(1904)	78
Washington University, St. Louis	(1910)	87
Kansas City Medical College	(1900)	79
University Medical College	(1908) 76; (1910) 85; (1911)	78, 79, 79, 84.
Kansas City Hahnemann Medical College	(1911)	77
Creighton Medical College	(1911)	86
Leonard School of Medicine	(1910)	76
Western Pennsylvania Medical College	(1896)	82

College FAILED	Year Grad.	Total No. Examined.
Bennett Medical College	(1909)	1
Kansas Medical College	(1911)	2
University of Louisville	(1911)	1
Ensworth Medical College	(1908)	1
Central Medical College, St. Joseph	(1896)	1
St. Louis College of Physicians and Surgeons	(1910)	3
Kansas City Hahnemann Medical College	(1909)	1
University Medical College, Kansas City	(1911)	3
St. Louis University	(1903)	1
Eclectic Medical University	(1908) (4, 1911)	5

Nebraska August Report

Dr. E. Arthur Carr, secretary of the Nebraska State Board of Health, reports the written examination held at Lincoln, August 9-10, 1911. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 15, of whom 14 passed and 1 failed. Nine candidates were licensed through reciprocity. The following colleges were represented:

College PASSED	Year Grad.	Per Cent.
College of P. & S., Chicago	(1892) 76.5; (1911)	78.5
University of Maryland	(1911)	84.5
Missouri Medical College	(1893)	87.5
Ensworth Medical College	(1911)	77.4
Lincoln Medical College	(1909) 89; (1911)	78.7
Creighton Medical College	(1911)	76.9, 82, 83, 87.5
Jefferson Medical College	(1901)	84.9
Meharry Medical College	(1911)	77.6
Marquette University	(1910)	89.2
FAILED		
Lincoln Medical College	(1911)	70.7

College LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
University of Iowa, Homeopathic College	(1910)	Iowa
University of Michigan, College of Medicine	(1901)	Iowa
Barnes Medical College	(1911) Illinois; (1911)	Missouri
Kansas City Hahnemann Medical College	(1910)	Missouri
Lincoln Medical College	(1907)	Kansas
Jefferson Medical College	(1907)	Ohio
Chattanooga Medical College	(1896)	Kansas
Meharry Medical College	(1909)	Tennessee

Texas Reciprocity Report

Dr. J. D. Mitchell, secretary of the Texas State Board of Medical Examiners, reports that 57 candidates have been licensed under the reciprocity provision since Feb. 10, 1911. The following colleges were represented:

College	Year Grad.	Reciprocity with
University of Arkansas	(1910)	Arkansas
George Washington University	(1906)	Dist. Colum.
Northwestern University Medical School.	(1902) (1908) (1910) (1911) Illinois; (1908)	Minnesota
Chicago Homeo. Med. Coll.	(1892) Wisconsin; (1888)	Iowa
College of Physicians and Surgeons, Chicago	(1900) (1905) (1907) (1908) (1909)	Illinois
Hahnemann Med. Coll. and Hospital, Chicago	(1903)	Illinois
Rush Medical College	(1901) Iowa; (1903)	Illinois
University of Iowa, College of Medicine	(1907)	Iowa
Keokuk Medical College	(1899)	Wisconsin
Kansas Medical College	(1905)	Kansas
Kentucky School of Medicine	(1889) (1890) (1897) (1901)	Kentucky
Hospital College of Medicine, Louisville	(1903)	Indiana
University of Louisville	(1890) (1909) (1910)	Kentucky
Tulane University of Louisiana	(1911)	Arkansas
Baltimore Medical College	(1907)	W. Virginia
Universi[illegible] of Med. and Surgery	(1883) Missouri; [illegible]	
Washing[illegible]ouis	(1901)	Missouri
Enswort[illegible]	(1897)	Nebraska
Missouri [illegible]	(1883)	Missouri
St. Loui[illegible]	(1896)	Kansas
Barnes [illegible]	(1901)	Missouri
St. Loui[illegible] and Surgeons	(1901)	Missouri
Creighto[illegible]	(1905) (2, 1911)	Nebraska
Lincoln [illegible]	(1904	Nebraska
University and Bellevue Hospital Med. Coll.	(1901)	Kentucky
Starling Medical College	(1898)	Ohio
Clevelar[illegible] and Surgery	(1894) Illinois; (1894 [illegible]	
Miami [illegible]	(1905)	Ohio
Universi[illegible]	(1910)	Maryland
Jefferso[illegible] Illinois; (1906) West Virginia; (1909 [illegible]		
Vanderb[illegible]	) Maryland; (1906)	Missouri
University of Texas	(1910)	Missouri
Marquette University	(1910)	Wisconsin
University of Toronto, Ontario	(1910)	W. Virginia
University of Naples, Italy	(1893)	Nevada

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[2] Frazier: Prog. Med., March, 1908. Horseley: Brit. Med. Jour., Dec. 10, 1910. Frazier: Am. Jour Med. Sci., February, 1904.

[3] Therapeutic Gazette, July 15, 1909. THE JOURNAL A. M. A., Sept. 11, 1909.

[4] Spiller and Frazier: THE JOURNAL A. M. A., Sept. 22, 1906. Horsley: Brit. Med. Jour., Aug. 25, 1906. Ballance: Trans. Am. Surg. Assn., 1906.

Book Notices

A Manual of Pathology and Morbid Anatomy. By T. Henry Green, M.D., F.R.C.P., Consulting Physician to Charing Cross Hospital, and to the Brompton Hospital for Consumption and Disease of the Chest. Eleventh Edition. Revised and Enlarged by W. Cecil Bosanquet, M.A., M.D., F.R.C.P., Assistant Physician (Late Pathologist) to Charing Cross Hospital and to the Brompton Hospital for Consumption and Diseases of the Chest. Cloth. Price, $4.50 net. Pp. 612, with 350 illustrations. Philadelphia: Lea & Febiger, 1911.

The alterations in the contents of this book since the last edition are not inconsiderable owing to the many noteworthy advances made in pathology since the last edition was published, six years ago. Much more space is given to the chapters on parasites and tumors and new matter is added, although it is rather doubtful whether the pathology of affections of the skin can be presented adequately in the few pages here allotted to this subject. Acne and psoriasis are the only two skin affections considered. Only half a page is given to the spleen and two pages to the lymph structures. The chapter on bone does not even mention fragilitas ossium or osteomyelitis, although tuberculous osteomyelitis is discussed in the chapter on tuberculosis. Rickets and achondroplasia are the only two conditions described under bone. One paragraph disposes of the pathology of the hypophysis cerebri. The adrenals and thymus are not mentioned. As for the joints, their pathology is disposed of in a two-page discussion of gouty and rheumatoid arthritis. The diseases of the blood are merely touched on. In fact, all that portion of the book, about 200 pages, devoted to the diseases of special tissues and organs is incomplete; many topics being omitted and others merely mentioned. The author has given most of his attention to parasites and tumors. They are discussed in a thorough and able manner. In short, as a book on general pathology this work possesses many admirable features; as a book on special pathology, it is not altogether satisfactory.

Practical Medical Chemistry for Physicians and Students. By Charles Platt, A.C., M.D., Ph.D., and William A. Pearson, Ph.C., Ph.D., Analytical and Consulting Chemist. Sixth Edition. Cloth. Price, $2.50 net Pp. 254. Philadelphia: John Jos. McVey, 1229 Arch Street, 1911.

This work is evidently intended to be a combination of encyclopedic text-book and laboratory manual. Apparently it endeavors to include a smattering of all of the knowledge of chemistry required by medical students and physicians. It is obvious that the numerous subdivisions of chemistry, an understanding of which is necessary to the physician, cannot be treated adequately in a work of this size. As an example of the inadequate treatment of the subject-matter, it may be mentioned that the general subject "glucosids" is disposed of in nine lines, notwithstanding that the glucosids are of constantly increasing importance in therapy and toxicology. More attention is devoted to urinalysis than to any other subject, the essentials of a moderately complete examination being given together with suggestions as to the clinical significance of the results obtained.

Meningitis, Sinus Thrombosis and Abscess of the Brain. With Appendixes on Lumbar Puncture and Its Uses and Diseases of the Nasal Accessory Sinuses. By John Wyllie, M.D., Author of "Tumors of the Cerebellum." Cloth. Price, $3 net. Pp. 258. New York: Paul B. Hoeber, 1911.

This little volume is written from the view-point of the internist and not from that of the surgeon, although the major part of it deals with purely surgical subjects. The first two chapters, on "Meningitis" and "Thrombosis of the Cerebral Sinuses," respectively, are rather meager and not very satisfactory. The chapter on "Intracranial Abscess" is much better and some useful points may be found under "Differential Diagnosis." The author, not being a surgeon, does not take up the treatment but says, "The only possible treatment is operation, the management of which does not form part of this work." Omitting therefore such an important phase of the subject, the work must prove more or less unsatisfactory to those consulting it. A brief appendix on "Lumbar Puncture" and one on "The Nasal Accessory Sinuses" concludes the volume.

Medicolegal

Religious Belief no Defense for Parent's Failure to Furnish Medical Treatment for Child

(Owens vs. State (Okla.) 116 Pac. R. 345)

The Criminal Court of Appeals of Oklahoma affirms a conviction of the defendant Owens of violating the law by wilfully omitting, without lawful excuse, to furnish medical attendance to his minor child. The court holds that, under the statutes of that state, it is the duty of a parent having the custody of a minor child to support and educate such child; that such "support" includes necessary medical attendance to preserve the health and life of such child; that a reasonable construction of the statutes requires the furnishing of medical treatment in such a manner and on such occasions as an ordinarily prudent person, solicitous for the welfare of his child and anxious to promote his recovery, would provide it.

In a prosecution for a violation of that section of the statutes which provides, "Every parent of any child who wilfully omits, without lawful excuse, to perform any duty imposed on him by law to furnish necessary food, clothing, shelter or medical attendance, for such child, is guilty of a misdemeanor," an instruction of the trial court that religious belief will not constitute a defense to such prosecution is correctly given. The question of the necessity for medical treatment is a question of facts for the jury in any case for the violation of the statute, and when submitted under proper instruction of the court a finding of the jury, contrary to the contentions of an accused, will not be disturbed on appeal, when the evidence tends reasonably to support the finding.

In this case it appeared that the defendant's child was afflicted with typhoid fever, and that the county health officer and other physicians and neighbors of the accused called on and endeavored to induce him to permit the child to be attended by physicians and nurses, and he refused to do so, even though the medical attendance was offered without expense. In the testimony of the accused, he admitted that he was acquainted with the serious nature of typhoid fever, and knew that his child was seriously ill, and offered no excuse for his conduct, but the testimony on behalf of the state, and by the mother of the child, who testified on behalf of the accused, disclosed that the reason for refusing to provide medical attendance was on account of religious belief.

The court says that, under the Oklahoma statutes, it is the duty of the parent, regardless of his religious belief or superstition, to furnish necessary food, clothing, shelter and medical attendance to his child. A reasonable construction of these statutes would be that the parent is required to furnish the necessary food, clothing, shelter and medical attendance looking to the preservation of the health, as well as the life, of the child. The law does not contemplate the calling of a physician or the furnishing of medical attendance for every trivial complaint with which a child may be afflicted. A reasonable amount of discretion is vested in the parents charged with the duty of maintaining and bringing up of infant children. As before stated, the correct rule would require the furnishing of medical treatment in such a manner and on such occasions as an ordinarily prudent person, solicitous for the welfare of his child and anxious to promote its recovery, would provide.

The proposition that religious belief constitutes no defense for violation of a penal statute has been repeatedly announced by the courts in construing various other statutes, principally the violation of statutes on Sabbath breaking. The reasons given in those cases support the position of the court in this case. If religious belief would be a defense to the violation of the statute quoted it would necessarily follow that it would be a defense to the violation of the statutes against Sabbath breaking, and the statutes against polygamous marriages, and various other wholesome penal laws.

In this case, every act necessary to constitute the crime was knowingly done, and the crime was therefore "knowingly committed." The accused in his testimony admitted knowledge of the seriousness of typhoid fever; admitted that his child was seriously ill; and did not deny that the physician offered treatment and nurses free of expense; yet he refused to permit the child to receive the care and attention offered, and which it clearly needed. He was advised by the county health officer that he was laying himself liable to prosecution; yet he persisted in refusing aid for the child. A case of more wanton neglect could hardly be found. There was neither ignorance of fact nor ignorance of law in this case.

In this case the constitutionality of the statute involved was not raised. The authorities cited, however, clearly established the validity and wisdom of the law. The court concludes that the instruction of the trial court, advising the jury that religious belief constitutes no defense under the statute, was correct.

The question of the necessity of medical attendance would be a question of fact for the jury. That question was submitted to the jury, and they found against the accused, and properly so under the record. Under the law in this state, there is probably no way of reaching an adult who refuses to accept medical aid for himself on his own responsibility; but under the statute quoted, persons will not be permitted to allow innocent children, dependent on them, to suffer for the lack of necessary food, clothing, shelter or medical attendance. And the law contemplates the administering of such aid for the protection of the health, as well as the life, of the child.

Liability of Oral Promisor of Payment for Services for Another

(May vs. Roberts (Okla.), 115 Pac. R. 771)

The Supreme Court of Oklahoma says that the defendant said to the plaintiff, a physician, "I want you to go to that little house [pointing same out]; my tenant's wife, Mrs. B., is sick there, and I want you to look after her and take care of her." The plaintiff asked him about the pay, and he said, "I will see that it is paid." It was in answer to the plaintiff's question about pay for such service as he might render to Mrs. B. that he said, "I will see that it is paid." It was error to exclude this evidence from the jury. The evidence was competent and material for the consideration of the jury, in connection with all the facts and circumstances proved, to determine whether the liability created was primary or collateral. The question was whether, under all the evidence, the credit was given solely to the defendant, or to the husband of the woman who was to be treated by the plaintiff, with the understanding that, if the husband did not pay the charge, then the defendant would. If the former, that is, if the defendant's liability was primary, such verbal contract was valid, and the defendant was liable. But if the intention was that the husband of Mrs. B. should be primarily liable, and that the defendant's liability should be only collateral (that is, to answer in case of the husband's default) then the contract was void as within the statute of frauds, which requires promises to answer for the debts of others to be in writing. There might also be a question as to whether there was not a joint liability, that is, whether the husband of Mrs. B. and the defendant were not jointly to be liable.

Liability for Death from Delirium Tremens Precipitated by Injury

(McCahill vs. New York Transportation Co. (N. Y.), 94 N. E. R. 616)

The Court of Appeals of New York affirms a judgment holding the transportation company liable for the death of a man who died from delirium tremens on the second day after being struck by one of the defendant's taxicabs and being thrown about 20 feet, having his thigh broken and his knee injured. He was removed to a hospital and a physician testified that when he was brought there he was unconscious, or irrational rather than unconscious, rapidly developed delirium tremens, and it could be said with reasonable certainty that the injury precipitated his attack of delirium tremens. Of course, it was undisputed, the court says, that the injuries could not have led to delirium tremens except for the preexisting alcoholic condition of the man, and under these circumstances the debatable question in the case was whether the company's negligence was, legally speaking, the proximate cause of his death. The court holds that it was.

The real proposition, however, urged by the company was that it should not be held liable for the results which followed its negligence, either, first, because those results would not have occurred if the man had been in a normal condition; or, secondly, because his alcoholism might have caused delirium tremens and death at a later date even though the company had not injured him. But that proposition could not be maintained in either of its branches, which were somewhat akin.

The principle has become familiar in many phases that a negligent person is responsible for the direct effect of his acts, even if more serious, in the cases of the sick and infirm as well as in those of healthy and robust people, and its application to this case was not made less certain because the facts were somewhat unusual and the injured man's prior disorder of a discreditable character. The principle is also true, although less familiar, that one who has negligently forwarded a diseased condition, and thereby hastened and prematurely caused death, cannot escape responsibility, even though the disease probably would have resulted in death at a later time without his agency. However, it is easily seen that the probability of later death from existing causes for which a defendant is not responsible may be an important element in fixing damages in such a case, but it is not a defense.

Society Proceedings

COMING MEETINGS

American Public Health Association, Havana, Cuba, Dec. 4-9.
Southern Medical Association, Hattiesburg, Miss., Nov. 14-16.
Southern Surg. and Gynecol. Assn., Washington, D. C., Dec. 12-14.
Western Surg. and Gynecol. Assn., Kansas City, Mo., Dec. 18-19.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION

Thirty-Seventh Annual Meeting, held at Nashville, Tenn., Oct. 17-19, 1911

The President, DR. ROBERT H. BABCOCK, Chicago, in the Chair

Addresses of welcome were delivered on behalf of the local profession by Dr. George H. Price, Nashville, and, on behalf of the citizens of Nashville, by Mr. W. R. Cole. These were responded to on behalf of the association by Dr. Albert E. Sterne, Indianapolis.

The following officers were elected: president, Dr. Louis Frank, Louisville, Ky.; vice-presidents, Drs. Albert E. Sterne, Indianapolis, and F. William Werner, Joliet, Ill.; secretary, Dr. Henry Enos Tuley, Louisville, Ky. (reelected), and treasurer, Dr. Samuel C. Stanton, Chicago (reelected).

Pellagra: Its Epidemiology

DR. R. M. GRIMM, of the Marine-Hospital Service said: An investigation was made during August, 1911, in the counties of Whitley, Knox and Bell, Kentucky. The total number of cases was 140. Only sixteen were living in the homes at which they resided at the time when they noticed the first symptoms of the disease. With one exception, the families of the sixteen pellagrins gave a history of using surface or spring water. No observations were made which would lead one to suspect that the disease is hereditary. So far as I was able to determine, corn products in one form or another had been used exclusively by all of the pellagrins. The cornmeal used by the families of the miners in this region is obtained almost exclusively from the stores of the coal mining companies. The cornmeal was not of the best quality.

The Prevention and Eradication of Bubonic Plague

DR. W. C. RUCKER, San Francisco: Plague is primarily a disease of rodents and secondarily and accidentally a disease of man. Man's safety from the disease lies in the exclusion of the rodent and his parasites. This is the basis of all preventive and eradicative work. If man can live in rodent-free surroundings he need have no fear of plague, because if there are no rodents there can be no rodent parasites, and for all practical purposes the flea may be considered as the common vector of the disease from rodent to rodent and from rodent to man. The eradication of bubonic plague, therefore, means the eradication of rodents.

In the city the fight is directed against the rat and its parasites and aims to prevent the spread of the disease from them to man. In the country two measures follow the same general lines as in the city and are modified only to meet the existing conditions, such as the species of the rodent to be combated, the density of the population, and the different character of the buildings. The work of prevention is directed against the rodent and its parasites lest they import and nourish the seeds of pestilence, later to distribute them to mankind.

Preventive Vaccination Against Typhoid Fever

Dr. W. S. Harpole, Chicago: Vaccination has been done in many hospitals and asylums, where nurses, patients, doctors have been protected. Notable are the experiences of Richardson and Spooner in the Massachusetts General Hospital. From 1902 to 1906, twenty-six nurses contracted typhoid fever, and for each case of typhoid fever treated a nurse contracted the disease. In 1909 and 1910, under vaccination, no cases of typhoid occurred among the nurses. The experiences of our army and of hospitals and asylums are sufficiently convincing of the value of this vaccination. Typhoid vaccination is done by the injection of killed cultures of the typhoid bacillus. The germs are usually killed by heat. All persons who are in contact with typhoid cases, as physicians, nurses, hospital attendants and laboratory workers, should be vaccinated. Children and young people going to the country for the summer should be protected.

Typhoid Vaccines in the Chronic Infection

Dr. Willard J. Stone, Toledo, O.: Not only should individuals who are typhoid-carriers receive appropriate vaccine treatment, but all individuals including physicians and nurses, whose duties require the attendance and care of typhoid cases should receive immunizing treatment. By this procedure, many individuals otherwise destined to become chronic carriers might secure protection which would prevent in themselves the possibility of cholecystitis or other late manifestations as well as avoid the possibility of becoming a source of danger to others. Such treatment has been found efficient and productive of little discomfort. Nurses, orderlies and physicians should be regularly immunized at intervals of two or three years as should all others exposed to endemic or epidemic outbreaks. When typhoid bacilli have produced clinical or bacteriological evidences of cholecystitis, it is doubtful whether vaccine treatment will of itself be of avail, surgical drainage of the viscus then being indicated. On the other hand, appropriate vaccine treatment in individuals showing evidences of intestinal or urinary tract perpetuation of the bacilli, without cholecystitis, during convalescence from disease or subsequently, should be given the opportunity of vaccine treatment. Not all will be cured, but the bacilli will disappear in some instances. Chronic carriers, who have been treated by vaccines, should be under the control of the local board of health and furnished employment, if necessary, which would not require the handling of food products.

Diseases Produced by the Colon Bacillus; Diagnosis and Treatment

Dr. Fenton B. Turck, Chicago: The etiology of diseases does not sufficiently interest the American physicians and surgeons, hence our remedial measures are directed to the treatment of symptoms, and frequently we find the surgeon content with the removal of gall-stones, appendices and ulcers, etc., without sufficient interest in the causes of these complaints. Consequently we find many discouraging reports of the end-results of many of these abdominal operations.

Not only surgical diseases but many medical diseases masquerading under various names are now recognized as colon bacillus diseases. Thus Trautner experiments with colon bacillus in rheumatism, Metchnikoff in arterial sclerosis, Opie in hepatic cirrhosis. Migraine and neurasthenic conditions are often associated with increased indican which is chiefly the result of activity of bacillus coli in the intestine. Aside from the usual methods, the diagnosis rests on obtaining active cultures of *Bacillus coli* from the cecum (first clearing the lower bowel and allowing the tube to remain in the bowel until the contents from the cecum and also the ileum pass into a culture tube). A pure culture injected intraperitoneally into a rat indicates the virulence of the *Bacillus coli* used by death of the rat or mouse in a few hours. A test vaccine is used to determine the degree reaction of the patient when injected subcutaneously into the patient.

The treatment is directed first to the reduction of the virulency of the colon bacillus in the intestines by dietetic measures and the restoration of the functions of the stomach and intestines, especially the motor functions, and second to the increase of the means of defense by increasing the antibodies in the blood and tissues of the patient. Autogenous vaccines are introduced subcutaneously, intravenously, by mouth, colon or into the bladder or pelvis of the kidney as the case may require. This combined method has been beneficial in patients who have failed to obtain relief after operation for ulcer of stomach and duodenum, for gall-bladder disease, for removal of appendix, etc. It is over three years since this combined method of treatment was first used, and it seems to prove that the cures are permanent where the treatment is completely carried out.

(To be continued)

MEDICAL SOCIETY OF PENNSYLVANIA

Sixty-First Annual Meeting, held at Harrisburg, Sept. 25-28, 1911

(Continued from page 1390)

Lodge Practice

Dr. Horace M. Alleman, Hanover: Have we any economic conditions justifying lodge practice? The difference between legitimate contract practice and lodge practice should always be remembered in discussing this subject. The effect on the physician so engaged is detrimental to good work and is a hindrance to his advancement in his profession. The membership in these lodges is increased by openly advertising free medical treatment. Thus, the profession is used for a twofold purpose.

DISCUSSION

Dr. George E. Holtzapple, York: The question is how to check this pernicious practice. I believe that it will resolve itself into a personal effort on the part of every physician to help create a proper sentiment against this evil.

Dr. Charles J. Cummings, Williamsport: The state society ought to have a constitutional provision that no county society shall be a component part of it unless said county society bars lodge practice. Then we shall be getting at the thing in a common-sense way.

Dr. Israel Cleaver, Reading: As a cure, I would suggest that the lodges put the money paid by their members for this purpose into a fund from which to pay any physician the member may choose to employ his regular fee.

Dr. Sterling D. Shimer, Easton: In our county society, we finally adopted the rule that no member should accept any contract work for less than the regular fee. My contract work is paid in this way, but I get nothing extra for night work.

The Value of a Library to a County Medical Society

Dr. James M. Anders, Philadelphia: There are great advantages in having an independent medical library in each county society, as the working library is an important factor in medical progress. Reference books and medical periodicals are indispensable to the young physician as a source of knowledge and inspiration. The responsibility for establishing such libraries devolves on the members of the county societies. A special committee, cooperating with the secretary of the county society, who should also be the librarian, could raise a fund for this purpose with the aid of a small assessment. A small amount of this money should be appropriated to the purchase of books to keep the library up to date. Experience proves that not less than three-quarters of the books in large medical libraries are donated. In every county a suitable room could be found, as the result of patient effort. The present methods of transportation make it possible for the members to reach some central place easily, especially if the library is made the meeting-place of the society, so that books and periodicals could be taken out and returned at the time of the meeting.

DISCUSSION

DR. THOMAS A. JAMES, Ashley: The Luzerne County Society started with a very small library, and now has over 6,000 volumes. Every member has a key, and can use the library at any time for reading. Most of the volumes have come by donation, and the duplicates we have traded with other societies. We pay $10 a year dues.

DR. JAMES TYSON, Philadelphia: The journals should be allowed to circulate from one member to another, without requiring a man to go several miles to a center and return them. They could be sent by mail.

DR. JOHN B. CARRELL, Hatboro: In a county such as ours, which is 40 miles long and 20 miles broad, how would members so remote from this library have access to it? I would suggest having a library section of the society, and having each man who wished to belong to it contribute a certain amount of money.

Municipal Milk-Supply

DR. ERNEST J. LEDERLE, New York: We have come to believe in New York City that the only way to guarantee the safety of the milk-supply is to require pasteurization of all but certain grades of high-priced milk. We have adopted a plan for the official grading of milk into three classes: milk for infants; milk for adults, and milk for cooking and manufacturing. Milk used for the latter purposes does not require painstaking inspection, but it must be pasteurized, because one cannot be sure that it will be put to these uses.

Milk and Its Relation to Public Health

DR. PERCIVAL J. EATON, Pittsburgh: Clean, raw milk is recognized to be better as a food than either sterilized or pasteurized milk. Raw, clean milk, modified to suit the individual infant, is the best of the substitute foods. Because of the possibility of infection of man by the bovine tubercle bacillus, tuberculosis among cattle should be eradicated. On account of its known rôle as a disease-carrier, the production of all milk should be constantly watched by competent inspectors. The great value of milk depots is their relation to the morbidity and mortality of infants and young children. I would make a plea for the more general recognition of the economic rights of the producer, and for the education of the masses to the belief that a good product deserves and should obtain a good price, and that the best is none too good for the children.

DISCUSSION

DR. JOHN B. CARRELL, Hatboro: It might as well be understood by the residents of cities that the price of such milk as is desirable, not only for infants but also for adults, must be advanced. It is an impossibility for the farmer to produce with profit the kind of milk that should be used, unless the distributor and his profit are done away with.

DR. JAMES M. ANDERS, Philadelphia: I do not believe that we shall have a good milk-supply until a prolonged campaign of education is carried on among the farmers and dairymen. There is a method by which milk can be produced with comparative cheapness. By means of the cow-testing associations, the farmer can separate the profitable from the unprofitable cows and get rid of the latter, of which most farmers carry a large percentage. It is of importance for the farmers also to learn the proper time and the best method of cooling the milk, as well as the best manner of straining it.

DR. DAVID P. RETTEW, Coatesville: I believe in raising the price of milk. One cent a quart added to the present price would probably make its production profitable. I doubt whether doing away with the distributor and putting the distribution of the milk-supply in the hands of the municipality would work well in certain cities. There must, however, be better business methods of distribution.

DR. HENRY C. WESTERVELT, Pittsburg: Milk has very materially improved in quality and cleanliness without any tremendous increase in the price. You are paying 8 or 10 cents a quart for milk that is better than what you paid the same price for three or four years ago. The farmer is not using more men but merely making them do their work better. I believe in a campaign of enlightenment but not of the dairymen or middlemen. I enlighten the mothers, and they promptly enlighten the men who furnish the milk for their sick babies. Any mother can send a specimen of the milk furnished to our municipal laboratory and get a report on it without the knowledge of the dealer.

A New Sign in the Diagnosis and Treatment of Ulcer and Carcinoma of the Stomach

DR. EDWIN ZUGSMITH, Pittsburgh: A sign of gastric ulcer and carcinoma, which I believe has not heretofore been described, is an abnormal dulness to percussion in the second interspace extending for a variable distance on both sides the sternum. In observations extending over a period of one year, I have noted the presence of this sign in cases of gastric ulcer and much more positively in cases of gastric cancer. Unless the percussion stroke is very delicate, the sign will not be found, for the dulness will be obscured by lung resonance. On the healing of the ulcer the dulness disappears. I believe that this dulness is directly due to enlargement of the lymph-nodes lying along the sternum.

The Relation of the Streptococcus to Scarlet Fever with Active Immunization by Means of Streptococcic Bacterins

DR. JOHN A. KOLMER, Philadelphia: Among the various organisms considered as the probable cause of scarlet fever streptococci have received the most study and attention, although they are regarded as secondary invaders and responsible for a high proportion of the complications. If streptococcic bacterin prevents scarlet fever, then streptococci bear a much closer relation to that disease than we are willing to admit. Our inoculations, however, with the heat-killed streptococcic bacterin did not prevent scarlet fever. As scarlet fever is probably not due to the streptococcus, that organism being responsible only for the complications, the streptococcus bacterin may prevent a severe attack of scarlet fever by producing an immunity against secondary streptococcus infections.

The Treatment of Cardiac Arhythmia

DR. GEORGE W. NORRIS, Philadelphia: The forms of cardiac arhythmia are: (1) Sinus arhythmia, in which the normal inspiratory pulse acceleration and expiratory retardation become exaggerated. This may be symptomatically abated by atropin, but direct treatment is rarely necessary. Rest, diet, hydrotherapy and massage constitute our chief line of defense. (2) Extrasystolic arhythmia, in which one or more beats are dropped, which usually results from accentuated myocardial excitability, although it may be due to heart-block or diminished excitability. When temporary, it needs no treatment; when persistent, treatment consists in lessening the work required of the heart muscle. (3) Auricular fibrillation. It is this variety which so often goes hand in hand with the broken compensation of old rheumatic valvular lesions. These patients require rest, sleep, attention to diet and exercise. When the compensation is bad, absolute rest with laxatives and restricted dry diet will often produce many beneficial results. It is in auricular fibrillation that digitalis accomplishes its most brilliant results. (4) Heart-block, which is due to a depression of conductivity. For the serious form of heart-block seen in myocardial disease no definite rule can be laid down. In incomplete block, atropin, in liberal doses, often arrests the condition. Digitalis is contra-indicated. If heart-block is complete, digitalis may be beneficial. (5) Pulsus alternans, which is due to depression of contractility, a condition which can be inferred when we find an alternating pulse or a half frequency pulse. As this is an expression of exhausted or degenerated myocardium, little can be expected by any direct treatment. The treatment may be said to be that of myocarditis in general.

Case of Massive Pericardial Effusion

Dr. Thomas W. Kay, Scranton: During the past winter five cases of pericardial effusion have come under my observation. In one case at least 4,000 c.c. of fluid were present. The gravity of the case depends not on the quantity of fluid but on the intrapericardial pressure. Paracentesis pericardii is done easily and gives prompt relief, but is usually not permanent. By it one is never able to draw off all the fluid. Excellent results are claimed as a result of passing a trocar into the pericardium and introducing a rubber catheter through the cannula well below and to the rear of the heart. Thoracotomy with incision and drainage of the pericardial sac has been reported to give good results.

DISCUSSION

Dr. A. Stengel, Philadelphia: There is one feature of this discussion which must appeal to all of us in our everyday work and that is the matter of diagnosis as between the serious and the trivial forms of irregularity of the heart. The treatment of cardiac irregularities is infinitely more unimportant than the diagnosis, because, after all, the trivial forms take care of themselves in the long run and the other forms are serious and will remain serious, even in spite of treatment, though they may be helped. The matter of diagnosis is of importance mainly because a proper recognition of the forms that are unimportant may lead to permission to the patient to follow a mode of life that in the end rids him of the trouble; or, on the contrary, if the physician looks on it as serious and gives a serious prognosis it would lead to hopeless invalidism. One ought to be very careful in making the prognosis in these cases. A good rule is that the more the patient is incommoded by subjective recognition of his cardiac irregularity, the greater is the triviality of his condition. The use of digitalis should be governed strictly by its effects, and we should recognize that in actual cardiac disease it sometimes, even in proper doses, does harm. In very large pericardial effusions, the fluid is mistaken for pleuritic fluid, and the aspiration is made far out in the left side and a fluid is obtained but it is really a pericardial effusion. As to the radical operation for pericardial effusion, I should say that it is desirable to have more evidence before we can unequivocally recommend this form of treatment for pericarditis. I should prefer to stick to the old paracentesis for the present.

MEDICAL ASSOCIATION OF THE SOUTHWEST

Sixth Annual Meeting, held at Oklahoma City, Okla., Oct. 10-11, 1911

The President, Dr. M. L. Perry, Parsons, Kan., in the Chair

Officers Elected

The following officers were elected for the ensuing year: President, Dr. A. L. Blesh, Oklahoma City; vice-presidents, for Arkansas, Dr. T. B. Young, Springdale; for Missouri, Dr. H. S. Crossen, St. Louis; for Texas, Dr. B. N. Freeman, Nevada; for Kansas, Dr. W. S. Lindsay, Topeka; secretary-treasurer, Dr. F. H. Clark, El Reno.

Hot Springs, Ark., was selected as the place for holding the next meeting.

Management of the Nervous Child

Dr. M. L. Perry, Parsons, Kan.: The nervous child is the father of the neurotic and neurasthenic adult, but granting this potentiality, it is also true that proper care during the developmental period will often prevent the occurrence of actual disease at a later date. It is not only the functional nervous conditions whose seed is sown in early life, but many preventable organic affections originate within or develop later on the ground work of nervous instability acquired in infancy or during the first few years. Under the term "nervous child" I include: 1. The precocious child, with its highly organized but poorly balanced nervous mechanism, who is capable of rather extraordinary mental effort along certain lines, but prone to an early breakdown. 2. The quick, alert, restless child, whose whole nervous system appears to be hypersensitive, whose mental faculties are so active that concentration is difficult, and who is largely reflex in type. 3. The shrinking and abnormally timid child, who is weak in nerve-force and therefore easily exhausted. 4. The backward child, who is slowed up mentally either on account of defective organs or special sense, or an inherent defect in correlating sense perceptions and forming ideas. In the care of such children the influence of nutrition and dietetics is of paramount importance. Malnutrition is a potent factor in the development of nervousness as well as in aggravating the condition when it exists. There is a crying need of reform in our educational system. A more thorough inspection of school children should be made, and school authorities should recognize the necessity of special class work in the public schools for defective children not ordinarily classified as feeble-minded.

Pancreatitis: Suggestions as to Etiology and Surgical Treatment

Dr. A. L. Blesh, Oklahoma City: Chronic pancreatitis in association with bile-tract infections is not uncommon. Without this association it is comparatively rare. When present, while it adds more or less to the symptom-complex, the clinical syndrome is so overshadowed by gall-tract infection that it is rarely diagnosed in the absence of a palpable enlargement of the head of the pancreas. Both pancreatic and gall-tract infections may be due to an infection from below, and this, in turn, may depend on a malformed colon, causing a high degree of coprostasis. The frequent association of pancreatic biliary infections, duodenopyloric ulcers, and chronic appendicitis is at least suggestive of a common exciting cause. In this train of sequences the fact that we never encounter an acute but always a chronic type of appendicitis, is of great theoretical and practical importance as, at least, hinting the etiology. Direct biliary and pancreatic drainage, or simple gastrojejunostomy, will not always cure the respective diseases but will always give temporary relief. This fact suggests that respective operations do not always measure up to the pathology and etiology. In properly selected cases, Lane's operation should be added. If done in time, perhaps the latter, in properly selected cases, would be sufficient.

DISCUSSION

Dr. Bacon Saunders, Fort Worth, Tex.: There is one thing that impresses me, namely, the marked tendency to search for something wonderful every time the surgeon opens the abdomen for the relief of some intra-abdominal condition. It would be better not to look for these wonderful things when we operate. I have straightened out many of these kinks by removing the apparent pathologic condition. I have cured many cases of chronic pancreatitis by drainage of the biliary tract. I have had a great many cases in which things looked curious, but after removing well-known pathologic conditions the patients have recovered.

Dr. J. H. Riddell, Enterprise, Kan.: When a surgeon opens the abdomen and finds bands of adhesions, if they have nothing to do with the pathologic condition he is going to correct, they should not be severed. If a surgeon should open my abdomen, I would not want him to remove any section of my anatomy that looks right, for fear it might give me subsequent trouble.

Dr. John F. Binnie, Kansas City, Mo.: We should only remove the real pathologic condition that is causing the trouble; we should not take out an appendix that is not causing trouble.

Dr. Howard Hill, Kansas City, Mo.: I have been having a series of cases of gall-bladder trouble, and in twelve out of thirty or forty cases there has been inflammation of the pancreas, and in most of them the appendix seems to have been affected primarily.

Retrocecal Appendicitis

Dr. J. N. Jackson, Kansas City, Mo.: There are two anatomic positions of the appendix that are extremely unusual, and when the appendix is situated in either of them and is inflamed it gives rise to a different set of symptoms and leads to delay in diagnosis. These are the retroperitoneal and retrocecal types of appendicitis. In the surgical treatment in the retrocecal type, the incision should be made farther out than usual to avoid infection of the peritoneal cavity, possibly splitting the outer fold of the mesocolon so as to turn the colon over to the inside to get at the appendix behind. After removal of the appendix, sometimes there is an abscess cavity to contend with, and the patient is subject to the usual infection following cellulitis. Instead of inserting a drainage-tube, the cavity should be disinfected thoroughly with iodin or phenol (carbolic acid), followed by alcohol and packing. In cases in which an abscess has ceased to be local and has spread behind the intestine and peritoneum, under the colon, a counter-opening should be made to get drainage at the most dependent point.

DISCUSSION

Dr. Bacon Saunders, Fort Worth, Tex.: In these cases of appendicitis the symptoms are so slight that they are frequently overlooked, but the patient does not get well. He develops a septic condition and the surgeon sees him one or two weeks afterward and finds out what the trouble is. In these cases I usually make the incision entirely outside of the colon, and in a large percentage of them it is necessary to resort to posterior drainage. A small drain will not do much good.

Dr. H. C. Crowell, Kansas City, Mo.: I have never seen a case in which the appendix is beneath the peritoneum. One of my patients, a girl of 12, who was subjected to the Ochsner treatment for twelve or fourteen days, had a retrocecal abscess. There was a very much distended space in this region. I cleaned out the abscess thoroughly, but the patient died immediately, and I believe death followed because in opening up and disturbing this abscess so effectually at the time, I liberated an undue number of toxins. I believe we frequently have sudden deaths following large abscesses by disturbing the relations and having absorption of the toxins. Had I opened the abscess in this case in a limited way and drained, I feel certain that the girl would have recovered.

Dr. John G. Sheldon, Kansas City, Mo.: In some of these cases in which the appendix is retroperitoneally located, there may be involvement of the ureters.

Dr. J. D. Walker, Caney, Okla.: A patient had typical symptoms of appendicitis, but when the abdomen was opened no inflammation could be found. In tracing the ascending colon down to its termination and finding its union with the small intestine, I found an organ about the size of a goose quill, which I took to be the appendix. I removed it, and the patient recovered.

Dr. J. M. Inge, Denton, Tex.: It is important in these retroperitoneal conditions to go in back of the peritoneum, but how many surgeons, in making an incision, go far enough back to avoid the peritoneum? In some of these cases it is not good surgery to break up dense adhesions in the effort to find the appendix and remove it.

Postoperative Ileus: Report of Case Relieved by Intestinal Puncture

Dr. Leroy Long, McAlester, Okla.: Following the removal of a cystic tumor on the right side, involving both tube and ovary, with an ectopic gestation in the left tube, the round ligaments were shortened on account of a retrodisplacement, and the appendix was removed. Several hours later intestinal obstruction occurred, which was relieved by puncture.

Chronic Colonic Intoxication

Dr. John F. Binnie, Kansas City, Mo.: Chronic intestinal stasis is exceedingly common; it gives rise to diverse and obscure symptoms, and is at least one cause of neurasthenia. It may be due to various causes, but the real etiology is yet unknown. Failure to obtain relief from symptoms of appendicitis after appendectomy is often due to the fact that appendicitis, if present at all, was merely an accident in the course of a case of chronic intestinal stasis. In every operation for chronic appendicitis, the surgeon ought to examine the whole cecum and the terminal segment of the ileum.

DISCUSSION

Dr. H. C. Crowell, Kansas City, Mo.: Some forms of intestinal stasis are benefited by attention to diet and medication, but a large number of patients suffer from chronic auto-intoxication and neurasthenia on account of adhesions or interference with the peristalsis of the gastro-intestinal tract, and it is the duty of every surgeon who opens the abdomen to make a careful examination in every case to see if there exist adhesions that may interfere with proper peristalsis. In pericolitis I believe that the membrane is congenital, as it does not bear out the conditions, pathologically or histologically, of an inflammatory product.

Dr. A. L. Blesh, Oklahoma City, Okla.: I do not believe we are dealing with a single pathologic condition, but with many. I was called to see a young man who was said to have appendicitis, and in the family at the time there was a case of typhoid. I found he had had several such attacks as he was then suffering from. They consisted in pain, more or less marked, without marked radiating tendencies, in the right iliac region, near McBurney's point. The man's condition at the time was one of profound toxemia. I was fearful that the soreness in the right side was due to a typhoid perforation at the lower end of the ileum. Since there was no danger from waiting, we waited and the condition cleared up. These cases are peculiar in that they do not have a febrile reaction. In other words, they are toxemic.

Abdominal Drainage

Dr. Charles Blickensderfer, Shawnee, Okla.: In the ordinary cases, I prefer the small cigarette drain made by rolling gauze in gutta-percha tissue and thoroughly moistened in normal salt solution. The length is to be governed by the length of the drainage tract to be established. In thick, fat abdominal walls, a short drain of this character extending from the muscular fascia to the surface for a period of twelve hours will prevent mural abscess. Where pus is to be drained, a soft rubber tube of proper caliber may be wrapped with gauze and enveloped in rubber tissue. It is sometimes wise to have a strand of straight gauze lying within the central tube. This can be removed and replaced with others when necessary. In conclusion, the surgeon should not drain if it is possible to avoid doing so. He should not use dry gauze for drainage. He should not tuck or fold back and forth gauze to be used as a drain. Gauze packs are useful to control hemorrhage, but often act as plugs where drainage is sought. One should not use a long drain if a shorter one will suffice. The drain should be removed as soon as its service has been performed, remembering that in pus cases drains are useful for a much longer time than in relatively clean cases.

DISCUSSION

Dr. John F. Binnie, Kansas City, Mo.: Instead of the familiar cigarette drain, it is a good plan to take some strands of ordinary wool, such as used in making thick socks, sterilize it, and use it with a hard rubber tube. It will be found to be better than gauze.

Dr. W. J. Jolly, Oklahoma City: In all wounds, if we have an idea that infection has taken place, the proper thing to do is to drain. I have closed wounds, not having any extra trouble at the time, but have had to reopen them, which is unsatisfactory.

Dr. J. D. Griffith, Kansas City, Mo.: If I want rapid exosmosis, I use sterile petrolatum mixed with normal salt solution. This, being of greater specific gravity than the exudate that is to come out, will produce exosmosis in the capillary attraction. I have been using it for some time and it cuts drainage short and gives me an abundance of drainage. If you put one-quarter sterile petrolatum on the gauze you will find the exudate will be increased very materially.

Septic Infection

Dr. W. J. Jolly, Oklahoma City: In puerperal septicemia we are helpless so far as specific treatment is concerned. The local treatment usually used, curettage, is harmful and only opens up new avenues for the absorption of toxins, and aggravates the condition. While it is the ideal treatment in sapremia caused by a blood-clot or retained placenta, it is to be condemned in true septicemia. Serums, I believe, are worthless. A few patients get well under any treatment, but in my own experience serums do not modify the disease in the least. Our only treatment for the general septicemia is supportive—easily digested, nourishing food, and stimulants to sustain the patient until Nature manufacturers antibactericidal serums or opsonins to destroy the bacteria.

DISCUSSION

Dr. S. M. Mayberry, Enid: I believe in the use of the curet in removing portions of retained placenta, and I think there are times when this instrument, if not properly used, would necessarily carry infection into the healthy muscular coat and do harm. When it comes to washing fresh wounds, after removing all foreign material, I favor the use of tincture of iodin and the application of a hot, moist boracic acid and 95 per cent. alcohol dressing.

Dr. John F. Binnie, Kansas City, Mo.: Many years ago a Berlin surgeon made some investigations as to the sterilization of wounds, and unfortunately in the laboratory found that when bacteria had been in contact with a wound for so many seconds or minutes there was no use in trying to do anything. The bacteria were absorbed according to the laboratory experiments. This would have brought about to a large extent therapeutic nihilism if there had not been found "a nigger in the wood-pile" as regards these experiments. More recently Fredreick, carrying on similar experiments, found that bacteria in a freshly-made wound may be reached by aseptic or antiseptic means for a period of six or seven hours after the wound has been infected. Our methods of treatment of fresh wounds have changed in the last few years.

Do You Do Your Duty in the Obstetric Chamber?

Dr. David A. Myers, Lawton, Okla.: A wholesome surgical fear and a good surgical conscience are two very essential things for a physician. Do not let your surgical fear extend to the point that you will not repair the cervix following childbirth, and do not let your conscience dig you for not doing so. The technic, when once tried, is very simple, and the results are so good that the procedure should occupy the same place as the immediate repair of the perineum.

Cerebrospinal Meningitis

Dr. Wilmer L. Allison, Fort Worth, Tex.: The interesting features in my case were the protracted course after marked improvement following the use of serum; the violent reaction which followed the last four doses of serum, the internal hydrocephalus, the relief of which was followed immediately by marked improvement; the clear mentality throughout the case, and the increased growth of hair over the entire body.

MICHIGAN STATE MEDICAL SOCIETY

Forty-Sixth Annual Meeting, held at Detroit, Sept. 27 and 28, 1911

(Concluded from page 1393)

The Diagnosis of Heart Disease

Dr. G. W. McCaskey, Fort Wayne, Ind.: A complete anamnesis is important in studying a case of suspected heart disease. Inspection is too often cursory. Palpation is much neglected. Preliminary percussion may be made by holding stethoscope over area of superficial dulness and percussing lightly to edge of relative dulness. Findings may then be corroborated by ordinary percussion. The Roentgen ray is of immense value in determining the exact shape and size of the heart and the character of the cardiac movements. The orthodiagraph gives the most scientifically exact outline of the heart. Auscultation is very important, but has held too commanding a position. The significance of murmurs depends on their associated signs and symptoms. The rhythm and character of the sounds are more important *per se*. The study of the venous and radial pulse by synchronous tracings made with polygraph is most important, particularly in the study of arhythmias and heartblock. The electrocardiogram and the cardiophonograph are also of immense importance. The study of blood-pressure is absolutely essential though usually due to extra cardiac conditions. Respiratory embarrassment, hepatic engorgement, and dropsy are the time-honored signs of a failing heart. Hepatic engorgement should be sought for more constantly than it is. Fatal heart disease may occur without any of these signs being obtrusively present or even present at all.

The Heart in the Acute Infections

Dr. C. G. Jennings, Detroit: It is probable that acute degeneration of the myocardium results in every acute general infection attended by fever and other symptoms of toxemia. The extent of this degeneration will depend on the type, the virulence of the duration of the infection. Edema and cellular infiltration may precede, accompany or follow the onset of degeneration of the muscular fibers. In certain prolonged cases, chronic interstitial myocarditis is developed. Heart failure from acute myocardial degeneration and inflammation does not usually come in the early days of acute infection. Time must be given for the degenerative changes to weaken the heart. In diphtheria, however, possibly in pneumonia, myocardial changes advance with great rapidity and by the end of the first week may threaten life. In typhoid, influenza and other prolonged infections, the myocardium does not cause apprehension until the second or third week or later.

Circulatory failure in the first few days of an acute infection is usually due to vasomotor paralysis. In circulatory failure during the second week, vasomotor paralysis is still an important factor, although myocardial changes are usually present. The failing heart in the late stages of an acute infection is the result of myocarditis with or without dilatation. From the onset of the disease it should be the aim of the physician to limit toxemia by the early administration of specifics, as in diphtheria and rheumatism, the maintenance of free elimination, the intelligent use of hydrotherapy and careful attention to dietetics and the hygiene of the sick-room.

DISCUSSION OF PAPERS BY DRS. McCASKEY AND JENNINGS

Dr. A. W. Hewett, Ann Arbor: The particular methods that have been introduced in diagnosis of heart disease, or one of the most important ones, is that of determining the blood-pressure. The form of irregularity in which the heart is extremely irregular has been shown to be due to auriculofibrillation, and the muscle is in a continuous state of fine fibrillation. Digitalis does not raise the blood-pressure in man to any appreciable extent, and this is a very important point, because it is very common for physicians to decline or hesitate to give digitalis to patients with high blood-pressure. If a patient has high blood-pressure, I hesitate to give it; but if he has a low blood-pressure, it is of practical importance, in most cases, to raise it by administering digitalis.

Dr. G. W. McCaskey, Fort Wayne, Ind.: It has been assumed, on ordinary clinical grounds, that digitalis, in ordinary dosage, does not materially raise blood-pressure. I am unconvinced that the tendency of digitalis is not to raise blood-pressure. I have been unconvinced all the time, during recent years, and in those cases particularly where I am afraid of an increased peripheral resistance, I combine vascular dilators to counteract the vasoconstrictor effect which I assume to be present in the use of digitalis.

Acute Anterior Poliomyelitis

Dr. B. F. Green, Hillsdale: In Hillsdale County the epidemic of 1910 began in July and ceased in November, with a total of seventy-two cases, not including any of the abortive type. There were twelve fatal cases, four attributed to polio-encephalitis and eight to paralysis of the respiratory muscles. The spinal type occurred in fifty cases. The ages varied from 2 to 70. Nearly half the patients were under 10 years of age. In only four families were there second cases developing paralysis. In the fatal cases death occurred in the largest number within three days from the onset, though in one case it was delayed until the fourteenth day. So far this year Hillsdale County has had only one case, the patient at present being convalescent.

The General Use of Fat in the Diet

Dr. James E. Davis, Detroit: Indoor life is provocative of an appetite which shows a decided preferment for carbohydrate and protein and a distaste for fat, the result being an unbalanced diet, causing too frequently carbohydrate indigestion and protein errors of metabolism. This indoor class can metabolize fat better than protein, and the difficulties with the digestion of adequate quantities of fat should be met by skilful cooking, which will avoid subjecting it to prolonged high temperatures and will seek suitable combinations with a carbohydrate. Fat in the diet of natural selection is 8.3 per cent. of the total food weight, but it furnishes 16 per cent. of a day's total energy. No other food requires so careful an investigation of individual peculiarities in each patient as fat.

The Relation of Premature Rupture of the Amniotic Sac to Puerperal Sepsis

DR. GEORGE KAMPERMAN. Ann Arbor: A study of 300 recent confinements shows that premature rupture occurred thirty-eight times or in 12 per cent. of all cases. In practically all of these thirty-eight cases the amniotic sac ruptured before the beginning of labor. The labors in these cases of premature rupture were not longer than the average. Among the 262 cases where the membranes ruptured normally. there was a slight rise in temperature in 1.4 per cent. and a severe sepsis in 0.4 per cent. But among the thirty-eight cases where membranes ruptured prematurely, there was a slight rise in temperature in 13 per cent. and severe sepsis in 8 per cent. In this series puerperal sepsis occurred about ten times as often after premature rupture as it did after normal rupture of the membranes. The increased frequency of infection is probably due to the open birth canal. vaginal examinations contaminating the amniotic cavity with the vulval bacteria. As a prophylactic it is suggested that in all cases of premature rupture, the vulva be cleaned and protected from contamination, and that examinations be made per rectum instead of per vaginam.

DISCUSSION

DR. EUGENE BOISE. Grand Rapids: I am glad that statistics have shown that primiparæ are much more likely to sepsis than the multiparæ, but the question is, why is it so? Is it not probable because the vaginal examinations are made more frequently in primiparæ than in multiparæ, and the membranes have ruptured prematurely. The question suggests itself, is it not possible that the rupture of the membranes and the discharge. and the manner in which the fluid is discharged has something to do with it? There is also more apt to be an injury to the cervix in these cases of premature rupture of the membranes.

DR. E. GEORG, Ann Arbor: Unless a sterile bath can be taken, every pregnant woman is liable to infection from the douches, especially if the membranes have ruptured. An important thing in the care of these patients is that they should use a bed-pan, particularly after the membranes have ruptured.

DR. C. E. BOYS, Kalamazoo: It would seem to take a very generous supply of rubber gloves and much boiling and frequently changed hand solutions in order to make rectal examination feasible. After all, one sometimes questions how much good these examinations do, anyway. Personally, I depend more and more on external examinations for diagnosis of position and presentation.

External Pelvimetry with Special Reference to Method of Measuring the Outlet

DR. HOWARD H. CUMMINGS, Ann Arbor: Routine pelvimetry of the outlet has been sadly neglected. The best method of outlet pelvimetry is that taught by Professor Williams of Johns Hopkins. The diameters of the outlet of a normal pelvis should measure, according to Klein, who based his conclusions on the study of 113 normal pelves as follows: Transverse, 11 cm.; anterior sagittal, 6 cm.; posterior sagittal 9.5 cm.; anteroposterior, 11.5 cm. Williams measured 185 normal pelves and obtained as average outlet measurements the following: Transverse, 10.5 cm.; anterior sagital, 5 cm.; posterior sagittal, 7.5 cm.; anteroposterior, 11.5 cm. A series of seventy cases measured at the University of Michigan Maternity Ward gave the following average outlet measurements: Transverse, 10.2 cm.; anterior sagittal, 5.4 cm.; posterior sagital, 8.5 cm.; anteroposterior. 11.3 cm. Funnel pelvis was found in four cases in ninety consecutive obstetric patients.

Coloptotic Constipation

DR. L. J. HIRSCHMAN, Detroit: All cases of coloptosis must have associated with them an atonic condition of the colonic musculature, as all coloptotic patients are not constipated neither have all constipated patients coloptosis. In many patients who are coloptotic, a compensatory muscular development of the colon overcomes the ptosis. The surgical treatment consists of mesenteric suspension of the ptotic bowel, rotation and anchoring of prolapsed cecum and lateral anastomoses of parallel dependent limbs of prolapsed transverse and descending colon. Hygienic, dietetic and physical therapeutic measures are advocated in conjunction and following the surgical procedures.

DISCUSSION

DR. P. M. HICKEY: From the fact that about every fifth individual is born with a ptosis, our treatment should begin very early. The schools should take up the matter of correct position. Pupils should not be allowed to go around with the shoulder blades prominent and shoulders bent forward and the abdomen totally limp, but they should be taught the military exercises, and setting-up drill to bring them up in shape and accentuate the development of the abdominal muscles, and then this condition would not be present in later life, and there would not be so many neurasthenics.

Blood-Pressure in Eclampsia

DR. WALTER E. WELZ, Detroit: There is always an increase of intravascular pressure in pregnant women before the advent of eclampsia. The blood-pressure is highest during the convulsive state, and gradually drops to normal with recovery. All women passing through the later months of pregnancy may be placed in one of five groups: (1) normal, (2) eclamptic, (3) chronic nephritic, (4) non-toxic renal, (5) mechanical albuminuria. Blood-pressure readings and urinary analyses are the principal factors of this classification, which should lead to earlier diagnosis, efficient prophylaxis and more definite prognosis in cases of toxemia of late pregnancy. Abnormal urinary findings are of value only when qualified by blood-pressure readings. The blood-pressure alone is worth more as a diagnostic aid than any other symptom, and for this reason should be made use of as the indicator for the care of threatened eclampsia. If the high pressure of late pregnancy is controlled, the patient may pass through pregnancy, labor and puerperium without the advent of convulsions. Veratrum viride apparently helps control the convulsions by slightly lowering blood-pressure, which causes a subsidence of the serious condition in acute eclampsia.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Medical Sciences, Philadelphia

October, CXLII, No. 4, pp. 470-624

1 Specificity, Danger and Accuracy of Tuberculin Tests. L. Brown, Saranac Lake, N. Y.
2 *Is Pernicious Anemia of Infectious Origin? H. C. Moffitt, San Francisco.
3 *Coagulation Time of Blood in Various Diseases. R. D. Rudolf and C. E. C. Cole, Toronto.
4 Physiology and Pathology of Fever. A. I. Ringer, New York.
5 Treatment of Febrile Conditions. F. S. Meara, New York.
6 Cysts of Spleen. J. H. Musser, Philadelphia.
7 Case of Late Hodgkin's Disease (Lymphoma Granulomatosum), With Various Cases Presenting Clinical Picture of Splenic Anemia (Banti's Disease). F. P. Weber, London.
8 Insidious Onset of Pneumothorax. O. H. P. Pepper, Philadelphia.
9 *Sound-Production and Sound-Conduction Along Respiratory Tract. J. H. Barach, Pittsburg.
10 General Considerations as to Visceral Ptosis. A. L. Benedict, Buffalo.
11 Multiple [illegible] of Heart and Lungs in Pyemia. R. N.
12 Aortic [illegible] Kerr, San Francisco.
13 Recent Advances in Anatomy and Pathology of Heart from Clinical Point of View. A. E. Cohn, New York.

2. **Pernicious Anemia.**—Reasoning by analogy as well as on the basis of clinical observation, Moffitt appears to incline to the belief of an infectious origin of this disease.

3. **Coagulation Time of Blood in Various Diseases.**—Secondary anemias, other than those due directly to hemorrhage, appeared to have a normal clotting time. Twelve observations were made by Rudolf and Cole on six patients, with an average clotting time of 7.8 minutes, and a range of from 10.5 to 6.4 minutes. When the anemia resulted from hemorrhage, the clotting time was invariably shortened, except in the case of hemophilia, when hemorrhage appeared to have no such effect. In eight cases of hemorrhage, with fourteen observations, the average clotting time was 6.6 minutes, with a range of from 5.2 to 10 minutes. The one that showed a time of ten minutes was a case of epistaxis in an old woman. It was not severe, but was very persistent and hard to control. There was no history in the family of bleeding nor of previous hemorrhages. In one case of severe traumatic hemorrhage the clotting time was 6.4 minutes. The patient was transfused by Crile's direct method, and afterward the clotting time was practically the same (6.5 minutes). The donor, his brother, showed before the transfusion a clotting time of 8.5 minutes, and directly after, one of 5.8 minutes. Six healthy children were tested before and after the administration of a prophylactic dose of antitoxin. The dose given was always 500 units, which bulks about 3 c.c. There was no change produced in the clotting time.

Two cases of hemophilia, both typical as regards the family tendency to hemorrhage, etc., showed very different readings as regards their time of coagulation, one giving an average of 9.5 minutes and the other one of nineteen minutes. The one that showed the greater delay was given calcium lactate freely for two days, 30 grains every four hours, with a sequence of a clotting time of twenty minutes. A few days later he was given 15 c.c. of rabbit blood-serum subcutaneously without any perceptible effect on the clotting time. Six cases of jaundice showed an average clotting time of 9.6 minutes as a result of ten observations. In none of them had there been any recent hemorrhage. A case of splenomyelogenous leukemia, which remarkably improved as regards the blood-picture under the biweekly use of Roentgen rays showed some lengthening in clotting times as the leukocytes dropped in number. Forty-seven observations were made on seventeen cases of lobar pneumonia, and the average clotting time was 8.1 minutes, but ranged from 5.5 to 12.75 minutes. The clotting time did not vary with the acuteness of the infection, two fatal cases showing a time of 8.25 and 8.75, respectively, shortly before death. No marked daily variations occurred. Three cases of purpura, in which subcutaneous hemorrhages occurred without definite cause, showed an average coagulation time of 6.16 minutes from eight observations, the range being from 4.9 to 7 minutes.

Thirty-eight observations were made on the blood of fifteen patients with acute rheumatism, and the average clotting time was found to be 10.2 minutes, with a range of from 7 to 14.3 minutes. Thus, the clotting time in acute rheumatism seems to be lengthened. It was noted that the clotting was delayed as long as the acute pain lasted, but it did not seem to have any special relation to the degree of fever present. All of these patients were freely treated with salicylates, but the delay in the clotting time was not due to this medication, as in several of the cases the first estimates were made before the remedy was commenced, and in most of them the drug was still being given after the pains had ceased and the coagulation time had consequently become faster. Sixty observations were made on twenty-six cases of typhoid, and the average clotting time was found to be 7.1 minutes, with a range of from five to twelve minutes. The severity of the invasion did not seem to have any effect on the clotting time.

9. **Sound Production and Sound Conduction Along Respiratory Tract.**—Barach found that the "bronchial breathing" heard at the acromial end of the clavicle has its origin at the manubrium sterni, which receives sound vibrations from the trachea behind. The cavernous breathing heard over the cranial bones, particularly the occipital, has its source of origin in the nasal fossa which acts as a resonator. In the nasal fossa, the nasal resonator, a definite amount of sound is produced, and this sound added to the sound wave created along the lower portions of the respiratory tract, makes up the "sound total," which is heard when auscultating. That the nasal resonator is an active factor in auscultatory sound production is readily appreciated by observing the weakening of the respiratory sounds which occur when its action is eliminated. From this it is evident that auscultatory sound production does not begin at the larynx. This, too, shows that the examiner must take into careful consideration the condition of the nasal resonator, and whether the mouth is opened or closed, in the proper interpretation of his auscultatory findings. The observations on tracheotomy cases throw light on the part played by the larynx, which seems to be of less importance than is generally believed. They show that elimination of the larynx results in modification of the pitch and volume of the bronchial and vesicular sounds, but the essential characteristics of these sounds remain unchanged.

Illinois Medical Journal, Springfield

October, XX, No. 4, pp. 387-500

14 *Cancer in Domestic Animals. M. Herzog, Chicago.
15 *Etiology of Cancer. F. R. Zeit, Chicago.
16 Surgical Treatment of Cancer. S. C. Stremmel, Macomb, Ill.
17 Diagnosis of Acute Poliomyelitis. L. H. Mettler, Chicago.
18 *Medical Service of State Hospitals. C. F. Read, Watertown, Ill.
19 Some Necessary Applications of Physiologic Psychology. D. B. McEachern, Chicago.
20 Mixed Infection in Pulmonary Tuberculosis. R. T. Pettit, Ottawa, Ill.
21 Attenuated Types of Suppurative Sphenoiditis in Relation to So-Called Post-Nasal Catarrh, to Headache with Mental Daze and to Asthma. W. E. Casselberry, Chicago.
22 Law and Medicine. C. H. Burton, Edwardsville, Ill.
23 Control of Bovine Tuberculosis. M. P. Ravenel, Madison, Wis.

14 and 15. Abstracted in THE JOURNAL, June 17, 1911, p. 1844.

18. Abstracted in THE JOURNAL, June 10, 1911, p. 1747.

Kentucky Medical Journal, Bowling Green

August 1, IX, No. 15, pp. 639-696

24 *Surgical Complications of Typhoid. A. D. Willmoth, Louisville.
25 Case of Pellagra. F. Dunlap, Danville.
26 Business Side of Medicine from Idealistic and Optimistic Point of View. J. L. Atkinson, Campbellsville.
27 Endometritis. H. T. Crouch, Bardwell.
28 Appendicitis. L. C. Shafer, Florence.
29 Pelvic Cellulitis or Parametritis. G. W. Payne, Bardwell, Ky.
30 Milk: Its Relation to Public Health. F. J. Eisenman.
31 Cerebral Arteriosclerosis. E. Harthill, Pewee Valley.
32 Careless Examination; Thereby Causing Faulty Diagnosis. B. P. Earle, Dawson.
33 Prognosis and Treatment of Typhoid. C. R. Garr, Flemingsburg.
34 Diarrhea of Children. C. R. Morton, Dawson Springs.
35 Postpartum Hemorrhage. H. C. Clark, Falmouth.

August 15, IX, No. 16, pp. 697-730

36 *Observations on Sepsis and Antisepsis in Medicine. W. S. Thayer, Baltimore, Md.
37 *Rubber Gloves in Obstetric Practice. W. B. Gossett, Louisville.
38 Circumcision and Uncircumcision. R. B. Gilbert, Louisville.

24. Abstracted in THE JOURNAL, Oct. 8, 1910, p. 1308.

36. **Sepsis and Antisepsis in Medicine.**—It is urged by Thayer as an antiseptic prophylactic measure that there should be special typhoid wards, special tuberculosis wards and special isolating wards in which diseases such as bacterial dysentery may be cared for. Precautions such as those now supposed to be taken in connection with typhoid should be taken in the care of patients with diseases such as pneumonia or influenza. Orderlies and nurses with bad colds or tonsillitis should not be allowed to attend regularly to susceptible individuals or to those in whom the contraction of the malady might produce grave results, such, for instance, as patients suffering with mitral disease. Every hospital ward should be thoroughly and effectively netted against flies and mosquitoes. The omission of a precaution so elementary in its necessity as this, should be regarded as criminal negligence. Not only nurses and orderlies, but attending physicians, should wear clean uniforms or gowns, whenever attending wards containing contagious diseases and remove them on leaving the wards. And among contagious diseases, Thayer includes such maladies as typhoid, tuberculosis and

can metabolize fat better than protein, and the difficulties with the digestion of adequate quantities of fat should be met by skilful cooking, which will avoid subjecting it to prolonged high temperatures and will seek suitable combinations with a carbohydrate. Fat in the diet of natural selection is 8.3 per cent. of the total food weight, but it furnishes 16 per cent. of a day's total energy. No other food requires so careful an investigation of individual peculiarities in each patient as fat.

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Dr. C. E. Boys, Kalamazoo: It would seem to take a very generous supply of rubber gloves and much boiling and frequently changed hand solutions in order to make rectal examination feasible. After all, one sometimes questions how much good these examinations do, anyway. Personally, I depend more and more on external examinations for diagnosis of position and presentation.

External Pelvimetry with Special Reference to Method of Measuring the Outlet

Dr. Howard H. Cummings, Ann Arbor: Routine pelvimetry of the outlet has been sadly neglected. The best method of outlet pelvimetry is that taught by Professor Williams of Johns Hopkins. The diameters of the outlet of a normal pelvis should measure, according to Klein, who based his conclusions on the study of 113 normal pelves as follows: Transverse, 11 cm.; anterior sagittal, 6 cm.; posterior sagittal 9.5 cm.; anteroposterior, 11.5 cm. Williams measured 185 normal pelves and obtained as average outlet measurements the following: Transverse, 10.5 cm.; anterior sagital, 5 cm.: posterior sagittal, 7.5 cm.; anteroposterior, 11.5 cm. A series of seventy cases measured at the University of Michigan Maternity Ward gave the following average outlet measurements: Transverse, 10.2 cm.; anterior sagittal, 5.4 cm.; posterior sagital. 8.5 cm.; anteroposterior. 11.3 cm. Funnel pelvis was found in four cases in ninety consecutive obstetric patients.

Coloptotic Constipation

Dr. L. J. Hirschman, Detroit: All cases of coloptosis must have associated with them an atonic condition of the colonic musculature, as all coloptotic patients are not constipated neither have all constipated patients coloptosis. In many patients who are coloptotic, a compensatory muscular development of the colon overcomes the ptosis. The surgical treatment consists of mesenteric suspension of the ptotic bowel, rotation and anchoring of prolapsed cecum and lateral anastomoses of parallel dependent limbs of prolapsed transverse and descending colon. Hygienic, dietetic and physical therapeutic measures are advocated in conjunction and following the surgical procedures.

DISCUSSION

Dr. P. M. Hickey: From the fact that about every fifth individual is born with a ptosis, our treatment should begin very early. The schools should take up the matter of correct position. Pupils should not be allowed to go around with the shoulder blades prominent and shoulders bent forward and the abdomen totally limp, but they should be taught the military exercises, and setting-up drill to bring them up in shape and accentuate the development of the abdominal muscles, and then this condition would not be present in later life, and there would not be so many neurasthenics.

Blood-Pressure in Eclampsia

Dr. Walter E. Welz, Detroit: There is always an increase of intravascular pressure in pregnant women before the advent of eclampsia. The blood-pressure is highest during the convulsive state, and gradually drops to normal with recovery. All women passing through the later months of pregnancy may be placed in one of five groups: (1) normal, (2) eclamptic, (3) chronic nephritic, (4) non-toxic renal, (5) mechanical albuminuria. Blood-pressure readings and urinary analyses are the principal factors of this classification, which should lead to earlier diagnosis, efficient prophylaxis and more definite prognosis in cases of toxemia of late pregnancy. Abnormal urinary findings are of value only when qualified by blood-pressure readings. The blood-pressure alone is worth more as a diagnostic aid than any other symptom, and for this reason should be made use of as the indicator for the care of threatened eclampsia. If the high pressure of late pregnancy is controlled, the patient may pass through pregnancy, labor and puerperium without the advent of convulsions. Veratrum viride apparently helps control the convulsions by slightly lowering blood-pressure, which causes a subsidence of the serious condition in acute eclampsia.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Medical Sciences, Philadelphia

October, CXLII, No. 4, pp. 470-624

1 Specificity, Danger and Accuracy of Tuberculin Tests. L. Brown, Saranac Lake, N. Y.
2 *Is Pernicious Anemia of Infectious Origin? H. C. Moffitt, San Francisco.
3 *Coagulation Time of Blood in Various Diseases. R. D. Rudolf and C. E. C. Cole, Toronto.
4 Physiology and Pathology of Fever. A. I. Ringer, New York.
5 Treatment of Febrile Conditions. F. S. Meara, New York.
6 Cysts of Spleen. J. H. Musser, Philadelphia.
7 Case of Late Hodgkin's Disease (Lymphoma Granulomatosum), With Various Cases Presenting Clinical Picture of Splenic Anemia (Banti's Disease). F. P. Weber, London.
8 Insidious Onset of Pneumothorax. O. H. P. Pepper, Philadelphia.
9 *Sound-Production and Sound-Conduction Along Respiratory Tract. J. H. Barach, Pittsburg.
10 General Considerations as to Visceral Ptosis. A. L. Benedict, Buffalo.
11 Multipl[illegible] of Heart and Lungs in Pyemia. R. N. [illegible]
12 Aortic [illegible] Kc[illegible]
13 Recent Advances in Anatomy an[illegible] from Clinical Point of View. A. E. [illegible]

2. **Pernicious Anemia.**—Reasoning by analogy as well as on the basis of clinical observation, Moffitt appears to incline to the belief of an infectious origin of this disease.

3. **Coagulation Time of Blood in Various Diseases.**—Secondary anemias, other than those due directly to hemorrhage, appeared to have a normal clotting time. Twelve observations were made by Rudolf and Cole on six patients, with an average clotting time of 7.8 minutes, and a range of from 10.5 to 6.4 minutes. When the anemia resulted from hemorrhage, the clotting time was invariably shortened, except in the case of hemophilia, when hemorrhage appeared to have no such effect. In eight cases of hemorrhage, with fourteen observations, the average clotting time was 6.6 minutes, with a range of from 5.2 to 10 minutes. The one that showed a time of ten minutes was a case of epistaxis in an old woman. It was not severe, but was very persistent and hard to control. There was no history in the family of bleeding nor of previous hemorrhages. In one case of severe traumatic hemorrhage the clotting time was 6.4 minutes. The patient was transfused by Crile's direct method, and afterward the clotting time was practically the same (6.5 minutes). The donor, his brother, showed before the transfusion a clotting time of 8.5 minutes, and directly after, one of 5.8 minutes. Six healthy children were tested before and after the administration of a prophylactic dose of antitoxin. The dose given was always 500 units, which bulks about 3 c.c. There was no change produced in the clotting time.

Two cases of hemophilia, both typical as regards the family tendency to hemorrhage, etc., showed very different readings as regards their time of coagulation, one giving an average of 9.5 minutes and the other one of nineteen minutes. The one that showed the greater delay was given calcium lactate freely for two days, 30 grains every four hours, with a sequence of a clotting time of twenty minutes. A few days later he was given 15 c.c. of rabbit blood-serum subcutaneously without any perceptible effect on the clotting time. Six cases of jaundice showed an average clotting time of 9.6 minutes as a result of ten observations. In none of them had there been any recent hemorrhage. A case of splenomyelogenous leukemia, which remarkably improved as regards the blood-picture under the biweekly use of Roentgen rays showed some lengthening in clotting times as the leukocytes dropped in number. Forty-seven observations were made on seventeen cases of lobar pneumonia, and the average clotting time was 8.1 minutes, but ranged from 5.5 to 12.75 minutes. The clotting time did not vary with the acuteness of the infection, two fatal cases showing a time of 8.25 and 8.75, respectively, shortly before death. No marked daily variations occurred. Three cases of purpura, in which subcutaneous hemorrhages occurred without definite cause, showed an average coagulation time of 6.16 minutes from eight observations, the range being from 4.9 to 7 minutes.

Thirty-eight observations were made on the blood of fifteen patients with acute rheumatism, and the average clotting time was found to be 10.2 minutes, with a range of from 7 to 14.3 minutes. Thus, the clotting time in acute rheumatism seems to be lengthened. It was noted that the clotting was delayed as long as the acute pain lasted, but it did not seem to have any special relation to the degree of fever present. All of these patients were freely treated with salicylates, but the delay in the clotting time was not due to this medication, as in several of the cases the first estimates were made before the remedy was commenced, and in most of them the drug was still being given after the pains had ceased and the coagulation time had consequently become faster. Sixty observations were made on twenty-six cases of typhoid, and the average clotting time was found to be 7.1 minutes, with a range of from five to twelve minutes. The severity of the invasion did not seem to have any effect on the clotting time.

9. **Sound Production and Sound Conduction Along Respiratory Tract.**—Barach found that the "bronchial breathing" heard at the acromial end of the clavicle has its origin at the manubrium sterni, which receives sound vibrations from the trachea behind. The cavernous breathing heard over the cranial bones, particularly the occipital, has its source of origin in the nasal fossa which acts as a resonator. In the nasal fossa, the nasal resonator, a definite amount of sound is produced, and this sound added to the sound wave created along the lower portions of the respiratory tract, makes up the "sound total," which is heard when auscultating. That the nasal resonator is an active factor in auscultatory sound production is readily appreciated by observing the weakening of the respiratory sounds which occur when its action is eliminated. From this it is evident that auscultatory sound production does not begin at the larynx. This, too, shows that the examiner must take into careful consideration the condition of the nasal resonator, and whether the mouth is opened or closed, in the proper interpretation of his auscultatory findings. The observations on tracheotomy cases throw light on the part played by the larynx, which seems to be of less importance than is generally believed. They show that elimination of the larynx results in modification of the pitch and volume of the bronchial and vesicular sounds, but the essential characteristics of these sounds remain unchanged.

Illinois Medical Journal, Springfield

October, XX, No. 4, pp. 387-500

14 *Cancer in Domestic Animals. M. Herzog, Chicago.
15 *Etiology of Cancer. F. R. Zelt, Chicago.
16 Surgical Treatment of Cancer. S. C. Stremmel, Macomb, Ill.
17 Diagnosis of Acute Poliomyelitis. L. H. Mettler, Chicago.
18 *Medical Service of State Hospitals. C. F. Read, Watertown, Ill.
19 Some Necessary Applications of Physiologic Psychology. D. B. McEachern, Chicago.
20 Mixed Infection in Pulmonary Tuberculosis. R. T. Pettit, *Ottawa, Ill.*
21 Attenuated Types of Suppurative Sphenoiditis in Relation to So-Called Post-Nasal Catarrh, to Headache with Mental Daze and to Asthma. W. E. Casselberry, Chicago.
22 Law and Medicine. C. H. Burton, Edwardsville, Ill.
23 Control of Bovine Tuberculosis. M. P. Ravenel, Madison, Wis

14 and 15. Abstracted in The Journal, June 17, 1911, p. 1844.

18. Abstracted in The Journal, June 10, 1911, p. 1747.

Kentucky Medical Journal, Bowling Green

August 1, IX, No. 15, pp. 639-696

24 *Surgical Complications of Typhoid. A. D. Willmoth, Louisville.
25 Case of Pellagra. *F. Dunlap, Danville.*
26 Business Side of Medicine from Idealistic and Optimistic Point of View. J. L. Atkinson, Campbellsville.
27 Endometritis. H. T. Crouch, Bardwell.
28 Appendicitis. L. C. Shafer, Florence.
29 Pelvic Cellulitis or Parametritis. G. W. Payne, Bardwell, Ky.
30 Milk: Its Relation to Public Health. F. J. Eisenman.
31 Cerebral Arteriosclerosis. E. Harthill, Pewee Valley.
32 Careless Examination; Thereby Causing Faulty Diagnosis. B. P. Earle, Dawson.
33 Prognosis and Treatment of Typhoid. C. R. Garr, Flemingsburg.
34 Diarrhea of Children. C. R. Morton, Dawson Springs.
35 Postpartum Hemorrhage. H. C. Clark, Falmouth.

August 15, IX, No. 16, pp. 697-730

36 *Observations on Sepsis and Antisepsis in Medicine. W. S. Thayer, Baltimore, Md.
37 *Rubber Gloves in Obstetric Practice. W. B. Gossett, Louisville.
38 Circumcision and Uncircumcision. R. B. Gilbert, Louisville.

24. Abstracted in The Journal, Oct. 8, 1910, p. 1308.

36. **Sepsis and Antisepsis in Medicine.**—It is urged by Thayer as an antiseptic prophylactic measure that there should be special typhoid wards, special tuberculosis wards and special isolating wards in which diseases such as bacterial dysentery may be cared for. Precautions such as those now supposed to be taken in connection with typhoid should be taken in the care of patients with diseases such as pneumonia or influenza. Orderlies and nurses with bad colds or tonsillitis should not be allowed to attend regularly to susceptible individuals or to those in whom the contraction of the malady might produce grave results, such, for instance, as patients suffering with mitral disease. Every hospital ward should be thoroughly and effectively netted against flies and mosquitoes. The omission of a precaution so elementary in its necessity as this, should be regarded as criminal negligence. Not only nurses and orderlies, but attending physicians, should wear clean uniforms or gowns, whenever attending wards containing contagious diseases and remove them on leaving the wards. And among contagious diseases, Thayer includes such maladies as typhoid, tuberculosis and

dysentery. All attendants should invariably and thoroughly wash their hands on leaving a ward or a bed containing a patient suffering from an acute infectious disease. The observance of the necessary precautions of sterilization of the clothes, eating utensils, excreta and bath water of all patients with infectious diseases, should be as rigidly and thoroughly enforced as are the antisepsis rules in the surgical operating room. Cultures should be taken from the urine and feces of all typhoid patients before their discharge from the hospital and, as a rule, no patient should be discharged until his excreta are free from the infectious organism. Similar steps should be taken with regard to dysentery.

Thayer is convinced that if precautions such as these were uniformly adopted in large hospitals, a great step would be taken, not only toward the immediate protection of the population of that institution and of the surrounding community, but toward the education of the medical and lay public at large, for similar precautions should also be taken in connection with patients whom physicians are attending at their homes. In the case of typhoid, for instance, the house should be thoroughly netted. No flies from that patient should infect the food of his neighbors. Furthermore, when possible no one but the attendants should be allowed in the room of the patient. If, however, it is necessary for one member of the family to be present, that individual should adopt all the precautions observed by physician and attendants. The physician should wear a fresh, clean gown whenever he visits the patient. A sufficient supply of these garments should be kept, so that a fresh one may be worn at every visit. The gown should be placed immediately in a tin boiler and boiled after every visit of the physician, so that in most cases, one or two gowns would suffice. The rules for the sterilization of the bath water, excreta, clothes and eating utensils should be carried out in the same manner as in the hospital. Final cultures should be made in the same way. He says that physicians as a body have been content to limit their practice to the treatment of infections after they have occurred, while the surgeon has long since passed beyond this, and has recognized that his most important duty lies in prophylaxis against this infection.

37. **Rubber Gloves in Obstetric Practice.**—Gossett is of the opinion that it is unnecessary for the obstetrician, under normal conditions, to make a habit of using rubber gloves in every case, if he takes the same precautions in cleansing his hands as the surgeon does before performing a major operation. The man who uses gloves must remember that their employment in no way lessens the necessity for thorough cleansing of the hands beforehand. The same precautions must be taken with the hands as if the gloves were not to be used. And just here, Gossett says, will be a great danger because a great many physicians will think that with the use of gloves this precaution is not necessary.

New Mexico Medical Journal, Las Cruces

September, VI, No. 12, pp. 291-330

39 The Needs of New Mexico. F. T. B. Fest, Las Veges, N. M.
40 Anesthesia. W. W. Spargo, Albuquerque, N. M.
41 Inalienable Birthright of Physician. C. M. Yater, Roswell.

Annals of Surgery, Philadelphia

October, LIV, No. 4, pp. 433-576

42 Study of Infections. A. T. Bristow, Brooklyn, N. Y.
43 Anatomy of Spinal Puncture with Technic and Paralytic Sequels. W. C. Lusk, New York.
44 *Technic of End-to-End Arterial Anastomosis. A. Ehrenfried and W. M. Boothby, Boston.
45 *Lateral Vascular Anastomosis. B. M. Bernheim and H. B. Stone, Baltimore.
46 Some Recent Mechanical Aids to Hollow Visceral Anastomosis. C. E. Tennant, Denver, Colo.
47 Successful Ligation of First Portion of Left Subclavian Artery. J. M. Neff, Spokane, Wash.
48 [illegible] Mammary Gland. R. B. Green-[illegible], Boston.
49 Intercostal Diaphragmatic Hernia: Report of Case. J. C. A. Gerster, New York.
50 Experimental Study of Management of Post-Operative Thoracic Infections. N. W. Green and H. H. Janeway, New York.
51 Surgical Clinic of Protestant Episcopal Hospital of Philadelphia. C. H. Frazier, Philadelphia.

44. **End-to-End Arterial Anastomosis.**—The authors report a successful case of suture of the femoral artery which had been completely severed, though the ends were held together beneath by some strands of uncut adventitia. The surrounding tissues were infiltrated with blood-clot. The vein and nerve were intact. Crile clamps were applied to the artery, the adventitia trimmed away and the ends sewed together by Carrel's method. The clamps were taken off, and then the clamp on the iliac artery was removed. There was some oozing of blood from the anastomosis, which ceased in two minutes under light pressure. Pulsation was readily felt beyond the suture. The abdominal wound was sewed up in layers, the thigh wound by mass sutures. Sterile dressing was applied, stimulation, heaters and blankets. The recovery was rapid and uneventful, despite the weakness of the patient from loss of blood. When seen the next day the left foot was warm and on the day following pulsation of the dorsalis pedis could be readily made out and heaters and blankets were discontinued. The temperature and pulse were normal on the fourth day and remained so. The stitches were removed after the tenth day and on the fourteenth day the patient went home, well except for a small granulating area at the site of the original wound.

45. **Lateral Vascular Anastomosis.**—In the method devised and employed by the authors the artery and vein between which the communication is to be established are carefully dissected out and bull-dog or Crile clamps, rubber-shod, are applied to each vessel at corresponding points. The incision in the artery is made first. A sharp cataract knife, held transverse to the long axis of the vessel, is plunged through the artery in a direction oblique to the horizontal plane in which the vessel lies, so as to form a sector of the lumen with its arc equal to about one-third of the circumference. The knife is thrust in with its cutting edge upward and toward the adjacent vein. The overlying one-third of the artery wall is then divided. At once the retraction of the longitudinal muscle and elastic fibers causes this transverse incision to gape and become an open ovoid. Owing to the fact that the knife was entered obliquely and not perpendicularly, this ovoid looks toward the vein and also somewhat upward. The posterior edge of the opening is thus easily accessible for suturing. As soon as the artery is opened all blood is washed out with salt solution, the adventitia stripped off carefully and the lumen and other surfaces freely bathed with liquid vaselin. The artery is then protected with vaselin-soaked gauze and a similar incision, corresponding in size and position, is made in the vein so that it looks toward the artery and upward. The suture is started by passing the needle through the wall of the artery from without inward, then crossing to the vein and passing here from within outward. When this suture is tied the knot lies outside the vascular lumen. From this starting point a simple continuous suture is carried around the openings in the two vessels, care being taken to avoid purse-stringing. The operation is completed by tying the last suture to the remaining long end of the first tie. No difficulty is experienced in approximating the edges of the incisions and there is no more tension on the thread than in an end-to-end anastomosis.

After completion of the suture, the clamps are removed first from the vein, as in all vascular surgery. If any marked leakage occurs, the weak spots are reinforced by one or two extra sutures. Then the arterial flow is gradually allowed to go over. During the suturing, intima is not always approximated to intima, but with the establishment of the arterial stream through the anastomosis, the "pull" in opposite directions between the two vessels helps to bring about an accurate approximation. This method has been employed with great satisfaction a considerable number of times in animals and was equally simple in execution in the one clinical case in which they have so far had the opportunity to try it. After an interval now of three months, this patient's anastomosis is working splendidly.

Vermont Medical Monthly, Burlington

September 15, XVII, No. 9, pp. 209-234

52 Epidemic Poliomyelitis in Light of Recent Laboratory Researches. G. R. Pisek, New York.
53 An Operation (Mayo) for Hysterectomy. S. E. Maynard, Burlington, Vt.

54 Anterior Poliomyelitis. F. E. Steele, Waterbury, Vt.
55 Single Rod Axis Traction Forceps. G. L. T. Hayes, Graniteville, Vt.

Journal of American Public Health Association, Columbus

September, I, No. 9, pp. 601-676

56 *How to Get and Keep Competent Health Officers. G. W. Goler, Rochester, N. Y.
57 Some of the Larger Aspects of the Work of the Metropolitan Sewerage Commission of New York. G. Soper, New York.
58 Ventilation of Emigrant Ships. P. H. Bryce, Ottawa, Canada.
59 Chemical Disinfection of Water and Sewage; Recent Development and Present Status. E. B. Phelps, New York.
60 Bacteriologic Examinations of Shucked and Shell Oysters. G. W. Stiles, Washington, D. C.
61 Source, Manufacture and Composition of Commercial Agar Agar. H. A. Whittaker.
62 Some Results Obtained from Digestion of Suspected Tubercular Sputum. B. R. Rickards, Urbana, Ill., and L. V. Parker, Minot, N. D.
63 Use of Streptococcus Vaccine as Means of Prophylaxis Against Scarlet Fever. E. T. Biwer, Chicago.
64 Score Card System of Dairy Inspection from National Standpoint. G. M. Whitaker, Washington, D. C.
65 Sterilizing Stations in Dairy Districts. C. E. North, New York.
66 Pasteurization of Milk in Sealed and Final Package. J. C. Carter, Boston.

56. **How to Get and Keep Competent Health Officers.**—The practice of modern sanitation and hygiene, having for its object the prevention of disease and the prolongation of life, Goler says, does not lead to increased compensation for the health officer, but, cut off from that increase in private practice which devotion to public duty in America always brings, he lands at the end of his career, out of work, out of money and out of health. To the city of his service he has usually given the best that is in him and his labor has been of inestimable value to the life and health of the people of the community; but more than that, if well done, it has been of economic value by lessening the burden which the city has had to bear in caring for the sick, supporting the widowed, the orphaned and the fatherless, in hospitals and other institutions, through private and public charities. Even more than this, the economic value of his work serves to attract attention to the city as a city of the well; and the advantages of a city where health is high and deaths relatively infrequent will be in the time to come, if not now, more than the advertising advantages of bill boards and newspapers. Our cities, says Goler, are beginning to learn the lesson that our insurance companies are learning and just as the insurance men have realized that it is better by care to keep their policy holders alive to pay premiums, than it is to let them die and have the companies pay death claims, so our cities are learning that to grow in population and in importance it is not only necessary to attract new citizens, but it is necessary to take care of the health and lives of those they have.

To do all this, and much more, is the work of the new health officer. To do his work well, he will not only have to exercise all the knowledge he has, but he will have constantly to accumulate new knowledge by frequently attending meetings and conventions of sanitary and social workers. He will also have to do a large amount of research work, both directly and through the labor of those in the laboratory. The equipment of the modern health office, the employment of laboratory workers and the purchase of apparatus, all cost money and in the beginning it may be difficult to get all the money necessary to man and equip the various divisions of the department where advanced work should be going on for the solution and interpretation of questions relating to the public health. For the study of cognate subjects, public spirited citizens equip and endow departments in various institutions and surely no one could place even small sums of money to any better purpose, than for the endowment of special or general work in public health laboratories. Under such conditions, the opportunity to work with a reasonable tenure of office and a fair compensation, the new health officer would become the chief advertiser of the city's health, its wealth and its progress.

Medical Fortnightly, St. Louis

September 25, XXXX, No. 6, pp. 385-408

67 Conservation of Our Young People. D. Lewis, Chicago.
68 In the Twilight. C. E. Warren, North Easton, Mass.
69 Modern Management of Pneumonia. S. Baruch, New York.

October 10, XXXX, No. 7, pp. 409-430

70 Contribution to Medical History of Napoleon's Campaign in Russia in 1812. A. Rose, St. Louis.
71 In the Twilight. C. E. Warren, North Easton, Mass.
72 Modern Management of Pneumonia. S. Baruch, New York.

Buffalo Medical Journal

October, LXVII, No. 3, pp. 121-178

73 Treatment of Acute Gonorrhea. C. W. Bethune, Buffalo.
74 Labor in Moderately Contracted Pelves. F. C. Goldsborough, Buffalo.
75 *Case of Laceration of Trachea. W. L. Wallace and H. O. Brust, Syracuse, N. Y.

75. **Laceration of Trachea.**—While performing athletic stunts this patient fell from a bar, striking the front of his neck across the back of a chair. He was at once in great distress for breath and coughed up much blood. For six days and six nights he was unable to lie down and if he dropped off to sleep for a second, his breath would be instantly shut off. He also had great difficulty in swallowing any food or water. At the operation it was found that three or four of the rings were badly broken from about the third to the fifth or sixth. The proximal and distal ends of the broken trachea were entirely separated and out of line and were held together only by the fibrous membrane which connects the posterior extremities of the cartilaginous hoops. The authors cut away the protruding splinters of the rings and sewed up the tracheal wound with fine chromic catgut. Most of the stitches were passed through the entire wall of the trachea, fastening and holding the broken rings to the sound rings above and below. As the mucous membrane tended to peel away from the rings and plug the breathing space and as the broken rings tended to collapse, they found these through-and-through stitches necessary. After getting the trachial tube air-tight by stitching a piece of fascia over the repair, they were met with another difficulty. When they took off the tenacula, used to hold the ends of the trachea in line and together, the windpipe collapsed, lacking the supporting cartilage hoops. When they pulled forward again, he could breathe. They therefore passed two or three traction linen sutures into the front of the trachea and brought them forward out of the wound, keeping up the tension while the superficial wound was closed and fastened them around the dressing covering the wound. A small rubber drainage tube was left at the lower extremity to take care of the infiltrated tissues. The drainage tube was gradually withdrawn during the next four or five days and at the end of a week the traction stitches were found to be no longer needed. They were therefore removed and the wound allowed to close and he has had no further trouble. One month later, his breathing and speaking were normal.

Journal of South Carolina Medical Association, Charleston

September, VII, No. 9, pp. 329-358

76 Medical Inspection of Schools in Spartanburg, S. C. L. R. N. Gantt, Spartanburg, S. C.
77 Medical Inspection of Schools and School Children. J. F. Townsend, Charleston, S. C.
78 Medical Inspection in Winthrop College Training School. L. Boyd, Rock Hill, S. C.
79 Uncinariasis; Its Eradication in South Carolina. J. L. Ward, Columbia.

Journal of Nervous and Mental Diseases, Lancaster

September, 38, No. 9, pp. 513-576

80 *Early Symptoms of General Paralysis. P. C. Knapp, Boston.
81 *Pathologic Study of Türck's Bundle. J. H. W. Rhein, Philadelphia.
82* Muscular Hypertrophy with Weakness. A. H. Woods, Philadelphia.

80 and 81. Abstracted in THE JOURNAL, July 29, 1911, pp. 417 and 418.

82. **Muscular Hypertrophy With Weakness.**—Woods calls attention to a disease of the muscular system the characteristics of which are as follows: Increased bulk of affected muscles, which feel firm when contracted; diminished power with early fatigue; hypertrophy of individual fibers, some increase in number of nuclei; no proliferation of fibrous or fatty tissue and no degeneration; tendon-reflexes, mechanical irritability and electrical reactions varied from slight diminution to slight increase. No qualitative electrical changes; a few cases show vasomotor skin changes; and some, dull pain

or tenderness of muscles; the course is slow, but little change occurring from year to year; males are more often affected. The upper extremities were involved more than the lower, though any part of the body may suffer.

American Journal of Obstetrics and Diseases of Women and Children, New York

October, LXIV, No. 406, pp. 593-728

83 The "Pelvic" Kidney; Report of Two New Cases. D. Bissell, New York.
84 *Posture of Lying-In Patient. G. C. Mosher, Kansas City, Mo.
85 Comparative Anatomy of Female Genitalia. E. A. Schumann, Philadelphia.
86 Surgical Hints. T. F. Lowe, Washington, D. C.

84. **Posture of Lying-In Patient.**—Mosher's rule is that the woman should be on her feet when she can have a record of two days in which no red color is shown. This puts the average patient up about the fifteenth day. She walks to a chair, is up an hour, increases the limit daily, as she shows her recuperation, judging by the lochia and height of fundus. Mosher examines her the fourth week and cautions her to lie down part of each day through the sixth week. He has had the fundus at the brim by the ninth day and the lochia serosa at the same time and he has had the patient in bed eighteen and twenty days. Usually she may be up half the day the third week and out the fourth week, but Mosher finds a routine practice during the first ten days of raising the head of the bed 8 or 10 inches an advantage in assisting drainage without subjecting the patient to any effort or exertion as is done when on the back rest. Mosher says that American women of the better class are not to be compared in their physical strength with the German peasantry, so that conclusions drawn from hospital statistics of the latter class cannot serve as a criterion for us in putting the patient on her feet. On the other hand, the modern young mother of the present generation who has had an education and an opportunity to live the normal life under direction of her advisor will be found to come through her ordeal in better shape by the adoption of the conservative rule than if she followed the heroic teachings of our brothers across the sea.

As to the change of posture in bed, Mosher's own experience has led him to allow the patient to be turned on her side after the first few hours, this gives her a sense of comfort after the long enforced cramped position on her back with her knees flexed, as she was during labor. He has never been unfortunate enough to see a case of embolism following labor, but appreciates that one is never too old to learn. The catheter is a last resort. The patient is urged to use the pan while lying on her back with various devices of pitcher, douche, water poured from height into a vessel or from a faucet to aid by suggestion the emptying of the bladder. If these expedients fail, she may be turned gently over on her face, lying across the pan to aid by gravity the expulsive effort. Then as a last resort, rather than to catheterize, she is, if the pulse is 90 or under, allowed to be helped out to the jar, which, giving her the upright posture usually accomplishes the desired result. The rule to be laid down from the present state of knowledge, is that the involution of the uterus, the color of the lochia and general condition of the individual patient must govern the conduct of the case, rather than an arbitrary time limit, based on the number of days following delivery.

Virginia Medical Semi-Monthly, Richmond

September 22, 16, No. 12, pp. 289-312

87 Prolapse of Uterus. C. R. Robins, Richmond, Va.
88 Symptoms of Exophthalmic Goiter. G. B. Lawson, Roanoke, Va.
89 Pathology and Chemistry of Exophthalmic Goiter. R. L. Rhodes, Roanoke, Va.
90 Treatment of Exophthalmic Goiter. H. H. Trout, Roanoke, Va.
91 Training of Nurses. C. S. White, Washington, D. C.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

September, III, No. 1, pp. 1-99

92 *Effects of Pilocarpin and Atropin on Amylolytic Power and Composition of Saliva. E. M. Ewing, Columbia, Mo.
93 *Actions of Caffein on Mammalian Circulation. T. Sollmann and J. D. Pilcher, Cleveland.
94 Consideration of Some Biologic Tests for Epinephrin. R. G. Hoskins, Columbus, O.

92. **Effects of Pilocarpin and Atropin.**—Ewing found that the volume of the normal saliva, its amylolytic power and the amount and percentage composition of solids secreted, remain approximately constant during a continuous period of secretion of six or eight fifteen-minute periods. If there is any change, it is a very slight falling off of the percentage composition of organic solids and at times of the amylolytic power. Pilocarpin reduces the relative amylolytic power of the normal saliva from 30 to 60 per cent. Although the relative amylolytic power of the saliva is much diminished by pilocarpin, the amount of maltose produced in the total volume of saliva secreted in a given period, after the administration of this drug, is greater than that produced by the amount of normal saliva secreted in the same length of time. "The efficiency" of the secretion is therefore increased by pilocarpin. Pilocarpin increases the amount and tends to increase the percentage of both the organic and inorganic solids of the saliva; the greatest increase is in the organic constituents, however. Any percentage increase of the solids is not nearly so great as the increase in the actual amount secreted. Atropin diminishes the amylolytic power of the saliva from 15 to 30 per cent. Both the amount and percentage composition of total solids secreted are greatly diminished by atropin. The decrease is in the organic constituents. Pilocarpin and atropin affect the factors which influence both the "trophic" and "secretory" elements of the saliva. The effect of pilocarpin and atropin on the secretion, or activity of the ptyalin of the saliva, bears no definite relation to the action of these drugs on the other physicochemical properties of the secretion.

93. **Action of Caffein on Mammalian Circulation.**—The effect of caffein on the circulation is shown by Sollmann and Pilcher to involve the following factors: Cardiac stimulation or depression, according to the dose and rapidity of injection; increased heart-rate, not due to vagus-depression (if the vagus is intact, there may be slowing through central stimulation, but with large doses, the heart escapes from the vagus tone); vasodilation, through peripheral depression of the vasoconstrictor mechanism; central vasoconstrictor stimulation generally ineffectual, also convulsive stimulation; cardiac irregularities, with large doses. The early intravenous injections show the following phenomena: Momentary myocardial depression, succeeded by myocardial stimulation; peripheral vasodilation; central vasomotor stimulation, usually ineffective; increased heart-rate. Blood-pressure: primary fall, followed by recovery and often a small rise. Oncometer: primary fall, followed by larger rise, usually outlasting that of the blood-pressure. Summation of effects with cumulative doses: (a) Total dosage of 20 to 150 mg. per kilo shows: cardiac depression (dilatation); peripheral vasomotor paralysis; moderate and ineffective central vasomotor stimulation; heart-rate reaches maximum and becomes irregular; blood-pressure falls to constant level of 50 to 70 mm.; fall of oncometer. (b) The blood-pressure reaches a constant level when the dosage reaches about 150 mg. per kilo, and further doses of caffein may then be injected with little effect, but sudden cardiac failure may supervene at any time.

Journal of Maine Medical Association, Portland

August, 2, No. 1, pp. 341-379

95 *Modern Methods of Clini
Hospital Organization. I
96 Prostatic Concretions and
97 Borderland of Medicine an
98 Chronic Alcoholism. F. E.
99 A Brief History of Medicine. M. P. Judkins, Rockland.
100 Pregnancy Complicated by Eclampsia and Fibroid of Uterus. F. H. Jackson, Houlton.

95. **Hospital Organization.**—The very complexity of method used in modern medical investigation, Christian says, demands a highly specialized training and continuity of observation for investigators and in addition a large variety of apparatus and trained assistants if advance is to be made. The time element enters to make impossible the application of such methods to more than a relatively few patients at any one period. Consequently the trend of modern clinical investigation is more and more toward the most minute continuous study of a few patients rather than the cursory observation

of the many. Team work and cooperative coordinated observation become increasingly important and hence the necessity of a centralized staff organization. As a result of the influence of present methods of clinical investigation there has come the feeling that for the hospital in which medical investigation is to be conducted, a continuous service with a single head is a more advantageous unit of organization than the older method of broken service with three or four chiefs of coordinate rank on duty during the twelve months. If we examine critically the hospitals of the world with reference to their productivity in investigation, it seems quite certain that productivity is most marked in those that have used the continuous service plan.

How does such a continuous service affect the other functions of a hospital? Is there better teaching with a continuous than with a broken service? Can better men be attracted to the one than to the other? The teaching function of a hospital is, in large part, at least, utilized in connection with a medical school, and staff selections should be made in cooperation with medical schools, thereby securing better men for the work. The continuous service in connection with a teaching position in a medical school is considered more desirable than the broken service, inasmuch as it singles out one man as director and leader and concentrates in him the emoluments of the position. Abler men will naturally seek such a place and selection need not remain local, as was the case with the broken service. The ability to pick the best man wherever he may be is certainly desirable from the pedagogical view point. In fact, it is almost alone in the clinical branches of medicine that the limitations of local selections are tolerated in the choosing of teachers. If in all other branches of educational work the best teachers can be secured by a non-local competition, why not in clinical medicine, surgery, etc.?

Lancet-Clinic, Cincinnati

September 30, CVI, No. 14, pp. 329-354

101 Acute Indigestion. C. C. Fihe, Cincinnati.
102 Bronchoscopy. J. W. Murphy, Cincinnati.
103 Shop Sanitation as Factor in Workman's Efficiency. O. P. Geier, Cincinnati.

October 7, CVI, No. 15, pp. 355-380

104 Psychic Causes of Insanity. I. O. Allen, Richmond, Ind.
105 Paralysis of Arm Removed by Suggestion, Although Accompanied by Cerebral Neoplasm. T. A. Williams, Washington, D. C.
106 Ancient Cincinnati House Physicians. T. C. Minor, Cincinnati.

Journal of Cutaneous Diseases, New York

October, XXIX, No. 10, pp. 521-568

107 *Skin Changes in Leukemias and Allied Conditions. H. H. Hazen, Washington, D. C.
108 *Treatment of Malignant Syphilis. H. Morrow, San Francisco.

107. **Skin Changes in Leukemias.**—Observation of three cases and study of case reports in the literature has convinced Hazen that there is a group of cutaneous lymphomata and lymphosarcomata, which includes leukemia and pseudoleukemia cutis, lymphosarcomatosis cutis, lymphodermia perniciosa, mycosis fungoides and the cutaneous lesions of chloroma and myeloma which are closely related. The "serum reaction" recently discovered for mycosis fungoides by Joltrain and Brin and described by de Beurmann and Verdun may prove of service in elucidating the relationship. Lymphodermia perniciosa is a condition closely related to both leukemia cutis and to myocosis fungoides. Mycosis fungoides is an aleukemic lymphomatosis and may become leukemia. The cutaneous lesions of leukemia are probably infiltrations and are comparable with the internal nodules in splenomyelogenous leukemia.

108. **Treatment of Malignant Syphilis.**—Judging from the action of salvarsan on a number of malignant cases of syphilis and on fifty-five milder luetic infections Morrow is of the opinion that salvarsan controls malignant lues quicker and better than mercury. Severe infections seem to clear up as quickly as milder ones. In nasopharyngeal necrosis, the action is quick and sure. If given early in lues, alone or in conjunction with mercury, cases of malignant lues will be a clinical rarity.

Journal of Kansas Medical Society, Kansas City

October, XI, No. 10, pp. 403-450

109 Traumatic Neuroses. O. D. Walker, Salina.
110 Hypothermia. H. L. Chambers, Lawrence.
111 Septic Endometritis: Report of Case. H. H. Brookhart, Scammon.
112 Medical Jurisprudence. J. H. Connaughton, Kingman.

Albany Medical Annals

October, XXXII, No. 10, pp. 575-636

113 Diagnosis of Kidney and Ureteral Calculi. D. N. Eisendrath, Chicago.
114 *Occlusion of Posterior-Inferior Cerebellar Artery, a Definite Symptom-Complex. H. C. Gordinier, Troy, N. Y.
115 Exostosis of Os Calcis. J. M. Berry, Albany, N. Y.

114. **Occlusion of Posterior-Inferior Cerebellar Artery.**—Three cases of this very unusual condition are reported by Gordinier. He believes that the branches of the posterior-inferior cerebellar artery which supply the medulla oblongata are physiologic end-arteries and that occlusion of this artery occasions a perfectly definite symptom-complex. The area of softening resultant from occlusion of this artery is strictly limited to the lateral field of the formatio reticularis and restiform body. The salient clinical symptoms of this complex are easily explainable by the loss of functioning of the important tracts of fibers and cranial nerve nuclei contained in the softened area. No motor paralysis is present unless the thrombus extends into the vertebral or basilar arteries. This complex is equally as characteristic as that of the so-called Brown-Séquard's spinal paralysis. The symptoms occasioned by the occlusion of the right posterior-inferior cerebellar artery are exemplified by the three cases narrated. They may be briefly summarized as follows: Sudden onset without disturbance of or loss of consciousness; remarkable and long persistent vertigo with nausea and vomiting; deafness on the right side; absolute inability to swallow due to paralysis of the muscles of deglutition of the right side; voice low and hoarse. Staggering toward the right side, often striking objects on that side, the gait resembling closely that due to cerebellar disease. Complete analgesia and thermic anesthesia of the left side of the arm, trunk and leg and in two of the cases partially so of the left side of the face; absolute preservation of the tactile sense on whole right side; diminution or loss of pain and temperature sense in distribution of the right trigeminal nerve (observed only in case three). Impairment of sense of pain and temperature in pharynx while sense of touch was normal. Contracted pupil, ptosis, narrowing of the palpebral fissure, retraction of eye-ball on right side, loss of sweating on the right side of face and neck. Motor power normal and no permanent paralysis in the domain of the right facial and hypoglossal nerves unless thrombus extends into vertebral. In one case a temporary right-sided facial paralysis existed. Pulse slow in all three cases, probably due to vagus irritation; may be rapid from vagus paralysis. The reflexes were not characteristic. Gordinier believes these symptoms are doubtless due to implication (by the area of softening) and consequent loss of functioning of the following important conducting paths. Cranial nerve nuclei and their root fibers; the ventrolateral ascending tract of Gowers; the direct cerebellar tract of Flechsig; the descending vestibular tract and cochlear nerve roots. Dorsal and ventral auditory nuclei. The cerebello-olivary tract; the nucleus ambiguus or combined motor nucleus of the glossopharyngeal and pneumogastric nerves, vasomotor and sympathetic fibers.

Journal of Abnormal Psychology, Boston

October-November, VI, No. 4. pp. 249-328

116 Plea for Study of Philosophic Methods in Preparation for Psychoanalytic Work. J. J. Putnam, Boston.
117 Case Illustrating So-Called Demon Possession. E. E. Mayer, Pittsburgh.
118 Freud's Theory of Wit. A. A. Brill, New York.

Interstate Medical Journal, St. Louis

October, XVIII, No. 10, pp. 983-1072

119 *Rôle of Myocardium in Heart Disease. L. M. Warfield, Milwaukee.
120 Prolonged Pregnancy. A. H. Wright, Toronto.
121 Appendix Dyspepsia. W. F. Cheney, San Francisco.
122 High Frequency Cauterization of Bladder Lesions. E. L. Keyes, New York.
123 Methods of Dealing with Sac in Operations for Radical Cure of Inguinal and Femoral Hernia. H. M. Young, St. Louis.
124 External Malleolar Sign. C. G. Chaddock, St. Louis.
125 Ten Cases of Trauma Capitis. A. H. Deppe, St. Louis.

119. **Myocardium in Heart Disease.**—In Warfield's opinion the myocardium plays the chief rôle in disease of the heart. Valvular lesions mean that the heart is working at a disadvantage, its reserve power is not as great, but it does not necessarily mean a weak heart. It means that every case of heart disease, that is, valvular heart disease must be studied carefully as a distinct entity and not as one of a group of cases having similar lesions. It is just here, says Warfield, that there is the important difference between the really good physician and the average doctor. Habits of life, such as eating, sleeping, mental work and worry, defecation, sexual excesses, drinking, and, in short, everything pertaining to the life of the patient, must be most carefully and painstakingly inquired into before we can even begin to tell him what not to do. No detail is too unimportant for study. When we have grasped the fact that there are no unessentials in the history of a person with suspected heart failure, and the fact that a loud murmur does not necessarily mean real heart disease, and the other important fact that the state of the myocardium controls the situation, then we may have hopes of assisting many apparently hopeless invalids to useful lives.

Medical Record, New York

October 14, 80, No 16, pp. 759-808

126 Practical Application of Bacterial Vaccines. M. J. Synnott, Montclair, N. J.
127 Movable Cecum and Typhlotomy. O. Lerch, New Orleans.
128 Quinin and Urea Hydrochlorid: Its Preparation and Use as Local Anesthetic; Report of Ten Cases. W. A. Boyd, Westport, Conn.
129 Psychic Indigestion. G. M. Niles, Atlanta, Ga.
130 Can Inebriates be Cured by Physical Means in Hospitals? T. D. Crothers, Hartford, Conn.
131 Foreign Bodies in Lung Simulating Pleural Effusion. J. W. Boyce, Pittsburg.
132 Normal Pregnancy Following Two Ectopies. F. R. McCreery, New York.

Boston Medical and Surgical Journal

October 12, CLXV, No. 15, pp. 545-586

133 *Simple Diet Card and Its Use. F. W. White, Boston.
134 *Phenolsulphonephthalin as Test of Renal Function. H. Cabot and E. L. Young, Boston.
135 Bacteriologic Examination of Stools as Measure of Quarantine Protection Against Asiatic Cholera. A. J. McLaughlin, Washington, D. C.
136 Effect Produced by Some Therapeutic Measures on Different Forms of Leukocytes in Pulmonary Tuberculosis. M. Solis-Cohen and A. Strickler, Philadelphia.
137 Case of Cerebral Syphilis in Child Four and One-Half Years Old Cured by Salvarsan. A. W. Fairbanks, Boston.

133. **Simple Diet Card.**—The importance of the amount of food as well as kind is emphasized by White. He says that the principles of nutrition are better known than the way to apply them. Our use of foods has been much less accurate than our use of drugs, and dietary mistakes have been common through ignorance of food values or difficulty in estimating them. A large part of the difficulty for the busy doctor has been the amount of work needed to estimate the fuel value of a day's food or the amount of carbohydrate, protein or fat in it. The method of doing this must be simple to be freely used.

He presents a simple diet card used by him. Its object is to avoid weighing of food and tedious calculations by giving food values in household measures. By its use one can readily plan or estimate the value of any simple diet or control the amount of some one food material, such as the carbohydrate in diabetes or the proteid in nephritis. The table gives the following:

1 glass of milk equals 160 calories.
1 glass of ¾ milk and ¼ (4 tablespoons) 20 per cent. cream equals 240 calories.
An eggnog (1 glass milk, 1 egg, 2 teaspoons sugar) equals approximately 300 calories.
A plate of cream soup equals 160 calories.
A glass of skimmed milk or buttermilk equals 80 calories.
An equal amount of gruel equals 75 calories.
A glass of albumin water (white of 1 egg) equals 20 calories.
A cup of beef tea or clear soup equals 5/20 calories.

134. **Phenolsulphonephthalin.**—The authors regard this test as simpler in technic and more accurate in its results than any of the other tests of renal function, although they are in doubt as to the accuracy of the test in chronic nephritis. They believe the test to be of great value in cardiorenal disease in indicating the organ principally or most importantly affected.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

September 23, CLXXXI, No. 4,595, pp. 871-930

1 *Two Cases of Extensive Excision of Colon and Ileum for Tuberculous Disease. A. E. Barker.
2 Operative Treatment of Malignant Disease of Pelvic Organs. A. Don.
3 *Three Cases of Congenital Heart Disease. Sir D. Duckworth.
4 Variability of Agglutination of B. Typhosus and M. Melitensis by Normal Sera and Its Importance in Laboratory Diagnosis. E. C. R. Fox.
5 *Mediterranean Fever: Its Influence on Fetus in Utero. R. Samut.
6 Accidents Which Have Occurred Through Color Blindness. F. W. Edridge-Green.
7 Bilharziosis and Ankylostomiasis in Egypt. G. W. G. Hughes.
8 *Roentgenotherapy of Sarcoma. J. D. Harris.
9 Acute Plastic Iritis, Markedly Benefited with Antistreptococcus Serum. A. A. Bradburne.
10 Case of Syphilitic Necrosis of Cervical Vertebra. F. X. J. Callaghan.
11 Portal Pyemia and Hemorrhoids. D. A. Alexander.
12 Prevalence of Pulmonary Tuberculosis in Merchant Service. M. MacKinnon.
13 Case of Myeloid Leukemia with Chylous Ascites. H. S. Furness and G. F. Stebbing.

1. **Extensive Excision of Colon and Ileum for Tuberculous Disease.**—Barker reports two cases. In one, the hepatic colon was clamped, divided, and its end turned in and sutured. The ileum was cut across over 2 feet from the valve and the whole tuberculous bowel with its mesentery and many infected glands removed from the abdomen as above. Then the end of the ileum was planted into the side of the transverse colon about 2 inches from its closed end. The whole procedure was a most complicated one owing to adhesion, infiltration and glandular infection as well as the difficulty of determining how much of the ileum should be taken, for many small tubercles were scattered widely. The cecum with 4 inches of colon and 27 of ileum were removed. In the second case a lateral anastomosis of ileum to middle of transverse colon was made after the removal of the cecum, ascending colon and hepatic flexure.

3. **Congenital Heart Disease.**—Mrs. B. was one of several daughters of a gouty man who was over 80 when he died. Her mother was also long-lived and appears to have suffered from some variety of chronic arthritis. Mrs. B. married at the age of 17; her husband died some years later from chronic dysentery. One son was the issue of this marriage. He has been healthy and vigorous and still survives at the age of 60, with some slight indication of a gouty proclivity. Mrs. B. married a second time a sufficiently robust man, aged 47 years, and had by him two sons and three daughters, all now living and healthy. Soon after this marriage she became very stout (arthritic obesity). After twelve years this husband died from cardiac dilatation and hemiplegia. Later, at the age of 37 years, Mrs. B. married a third time, the husband being a healthy man about 30 years of age. In this man's family there were signs of gouty proclivity in both parents. (His father died at the age of 79 years from the effects of interstitial nephritis. He had Heberden's nodes, and these also developed in others of his children in later life, with obvious gouty symptoms.) During her pregnancy with her first child by this (third) marriage Mrs. B. suffered from gouty pains in the joints and began to lose a good deal of her obesity. A female child was born at term, somewhat small and weakly, and with a languid circulation. In the course of the second year of its life it was still feeble and backward, although not rachitic, and had a tendency to dyspnea on exertion and progressive clubbing of finger-ends, with duskiness of the lips. An examination of the heart at this time revealed the existence of a murmur in the pulmonary arterial area. The child remained delicate and died from scarlet fever in its thirteenth year. There was no necropsy. Eighteen months later Mrs. B. gave birth to a second daughter. This child was with great difficulty made to breathe on delivery and was cyanotic. It lived only fourteen hours. A necropsy revealed a small opening in the septum ventriculorum and patent ductus arteriosus and extremely small pulmonary veins. The mother had suffered for some weeks during her pregnancy from severe gouty pains in various parts of the body. Two

years later she gave birth to a healthy male child, who is still living and robust and leading an active life.

In the course of the next three years Mrs. B. was found to be the subject of gouty glycosuria, little controlled by dieting. She lost weight very gradually and became feeble. She died at the age of 56 years from pleuro-pneumonia, having suffered from glycosuria in varying degree for twelve years. The husband has since his marriage had several gouty attacks of arthritis, lumbago and phlebitis. The third case of cardiac malformation occurred in the first child born to Mrs. B.'s son by her first husband. This son married a daughter of a distinctly gouty man, who had "regular" arthritic gout at intervals. Their first-born daughter showed obvious signs of congenital heart disease from an early date, suffering from dyspnea, some degree of cyanosis, and backwardness in growth. There was a murmur heard to the right of the sternum and the right ventricle was enlarged. This child hardly grew at all after eight or nine years of age and was very delicate. She died about the age of 13 years. A second daughter was born after this child and has maintained good health. The children by the second husband of Mrs. B. have all grown up in satisfactory health. The eldest and second of the daughters and one of the sons have married and had normal children. The third husband of Mrs. B. married a second time a daughter of an exceedingly gouty father and has had two healthy children by her.

5. **Mediterranean Fever and Fetus in Utero.**—The fetus in the case cited by Samut had been exposed in utero for twenty-one days to the influence of those abnormal conditions of the maternal blood consequent on a severe attack of Mediterranean fever. The child's blood and cerebrospinal fluid yielded a positive reaction to *Micrococcus melitensis* in large dilution. The *M. melitensis* could not be recovered from the internal organs of the fetus. The presence of agglutinins alone in this case raises the important question whether, in the absence of the *M. melitensis* in the fetal organs, they could have been elaborated by the fetal blood, or whether they were transmitted directly from the maternal to the fetal circulation.

8. **Roentgen-Ray Treatment of Sarcoma.**—Harris cites a case of round-celled sarcoma of the right angle of the lower jaw in which colossal doses of Roentgen-rays proved effective.

Clinical Journal, London.

September 20, XXXVIII, No. 24, pp. 369-384

14 Cervical Ribs. H. J. Waring.
15 Metrorrhagia. A. Routh.
16 Points of Otologic Interest in Connection with Injuries to the Head. S. Scott.

September 27, XXXVIII, No. 25, pp. 385-400

17 Eclampsia. T. G. Stevens.
18 Lupus Erythematosus and Its Treatment. J. L. Bunch.

Medical Press and Circular, London.

September 20, XCII, No. 3,776, pp. 309-332

19 *Ulcerative Colitis and Its Treatment. W. Murrell.
20 Treatment of Certain Diseases of Alimentary Tract by Roentgen-Rays, Combined with Internal Administration of Metallic Silver. F. Hernaman-Johnson.
21 Antepartum Hemorrhage Followed by Threatened Eclampsia. H. J. S. Kimbell.
22 Tuberculosis: Advanced Cases and Segregation. A. M. Williamson.
23 Infant Mortality and Employment of Women. E. Wardman-Wilbourne.

September 27, XCII, No. 3,777, pp. 333-358

24 Agitation and Its Treatment. P. Camus.
25 Chronic Catarrhal Otitis Media. C. A. Adair-Dighton.
26 Diagnosis and Treatment of Certain Chronic Lung Affections in Children. C. P. Lapage.
27 Revew of Vital Statistics of Ireland Since 1864. Sir W. J. Thompson.

19. **Ulcerative Colitis.**—The following modes of treatment in Murrell's hands have proved inefficacious or of comparatively little value: (1) Opium and morphin in all forms given by mouth, hypodermically or in enemata, special attention being paid to Dover's powder and compound kino powder. (2) Carbonate of bismuth in large doses up to half an ounce every four hours, alternated with salicylate of bismuth. (3) Astringents including the perchlorid and pernitrate of iron, acetate of lead and sulphate of copper. (4) Intestinal antiseptics, such as *B*-napthol, salol and various preparations of formicaldehyde. High rectal injections of boracic acid Murrell has found useful and in one of his cases (a) the injection of a 1 per cent. aqueous solution of a synthetical preparation of silver at a temperature of 80 F. completely stopped the diarrhea. The peculiarity of the case was that when about five pints had been introduced, the patient being in the knee and elbow position, the fluid was observed running out of the mouth and was identified not only by its physical characters but by chemical tests. Murrell is not in favor of appendicostomy. He says that a right-sided colostomy is in every way preferable and often gives immediate relief to the urgent symptoms. It is a difficult matter to decide when the artificial anus should be closed. If this step is taken at too early a period there may be a return of all the symptoms, while if too long delayed the colostomy may be permanent. Even with a permanent opening, the existence of the patient, especially in the case of a middle-aged man, need not be very uncomfortable and by the observance of simple precautions he is not precluded from the society of his fellow men. Murrell is sure, however, that in most cases it is better to attempt to close the opening at the expiration of about nine months.

Indian Medical Gazette, Calcutta

September, XLVI, No. 9, pp. 329-368

28 Dengue-Like Fevers. A. C. Munro.
29 Quinin Without Tetanus. F. A. Smith.
30 Case of Tetanus Treated by Chloretone. V. St. J. Croley.
31 Case of Tetanus with Two Severe Relapses at Long Intervals. L. G. Fink.
32 Case of Malignant Edema. R. F. D. Macgregor.
33 Nature of Epidemic Fever in Lower Bengal Commonly Known as Burdwan Fever. U. N. Brahmachari.
34 Treatment of Granular Ophthalmia and Its Complications by Subconjunctival Injection of Solution of Cyanid of Mercury. R. H. Elliot.
35 Treatment of Local Sores by Carbon Dioxid Snow. W. W. Jeudwine.
36 Two Unusual Cases of Head Injury. E. A. Walker.
37 Treatment of Acute Gonorrhea. W. L. Forsyth.

British Medical Journal, London

September 30, No. 2,648, pp 717-780

38 Treatment of Ante-Partum Hemorrhage. G. E. Herman.
39 *Malformation of Female Genital Organs in Their Clinical Aspects. A. E. Giles.
40 Inefficiency of Present Methods of Saline Infusion. N. S. Carruthers.
41 Painless Swelling of Parotid Secondary to Local Sepsis. C. E. L. Burman.
42 *Possible Toxic Origin of Some Forms of Insanity. E. Goodall.
43 *Different Types of Multiple Sclerosis. H. Oppenheim.
44 *Relation of Head Injury to Nervous and Mental Disease. F. W. Mott.
45 Puncture of Brain for Diagnostic Purposes. B. Pfeifer.
46 Need of Chemistry in Investigation of Mental Disease. R. V. Stanford.
47 Wassermann Reaction in Insanity. W. Muirhead.

39. **Malformations of Female Genital Organs.**—The malformations discussed by Giles and cases cited are as follows: 1. Malformations leading to confusion of sex. Case I.—A case of androgyny, the patient living as a married woman. 2. Malformations that preclude or are unfavorable to child-bearing, but allow menstruation and marriage. Case II.—Congenital retroflexion and under-development; hysteropexy; pregnancy. Case III.—Congenital occlusion of the Fallopian tubes.. 3. Malformations that preclude child-bearing and menstruation, but not marriage. Case IV.—Infantile uterus: primary amenorrhea. 4. Malformations that preclude marriage and child-bearing, but not menstruation. Case V.—Stenosis of the vagina, probably acquired. Case VI.—Congenital stenosis of the vaginal orifice. 5. Malformations that preclude menstruation, marriage and child-bearing. Case VII.—Atresia of the vagina; hematocolpos; incision; infection: pyosalpinx. Case VIII.—Atresia of the vagina; absence of menstruation. Case IX.—Absence of vagina; hernia of an infantile uterus in the left inguinal canal. Case X.—Absence of vagina; rudimentary uterus; horseshoe kidney in the pelvis. 6. Malformations that allow of menstruation, marriage and pregnancy, but may be attended by complications. Case XI.—Uterus unicornis; pelvic right kidney; normal pregnancies. Case XII.—Uterus septus with fibromyoma. Case XIII.—Uterus bicornis with ovarian cyst. Case XIV.—Uterus bicornis; exploratory celiotomy. Case XV.—Uterus didelphys.

42. **Possible Toxic Origin of Insanity.**—The following observations are made by Goodall on mental disturbances in autotoxemia. These, amounting to insanity in predisposed persons, occur in various maladies in which the nutrition is

impaired, or in which metabolism and depuration are altered or hindered. Thus, in diseases of the heart, kidneys, liver; in rheumatism, gout or chlorosis; in diabetes. The like disturbances are found with Grave's disease, myxedema, Addison's disease (ductless gland diseases). In the hypothyroidism of myxedema Magnus Levy shows experimentally definite deviation from normal metabolism, removed by administration of thyroid. As the symptoms (including the mental ones) disappear or are greatly mitigated by such means, there is reason for the view that metabolic disorder accounts for the mental disturbances in this disease and if in this, then also, it may be, in other ductless gland diseases. When, however, it comes to administering thyroid or pituitary gland in kinds of insanity in which there is no ground for supposing the action of these glands to be deficient, in order "to promote metabolism," we are empirics, indeed; yet, like empirics, we sometimes do good in this way. Is there any record of the metabolism in these cases before, during and after treatment, asks Goodall.

43. **Multiple Sclerosis.**—Oppenheim regards it as a great advantage for the diagnostician to be familiar with all the different types of multiple sclerosis. But he should never forget that the disease is essentially characterized by the multiplicity of foci. And even when a case appears to be of a pure type it will be his first duty to find out whether some symptom is not present or has not existed that would be the manifestation of foci in some remote part. He only who complies with this exaction will be able to see his way through the vast field of multiple sclerosis.

44. **Head Injury and Nervous and Mental Diseases.**—Mott refers to autopsies in twenty-one cases of general paralysis. The average age at death was 46.5; among these there was not one with a history of head injury. There were 235 male pauper paralytics in whom there was not history of head injury in the notes and the average age at death was 43.5; there were 29 male pauper paralytics with a history of head injury of one kind or another occurring at all periods during the life of the individual; the majority, however, are stated to have occurred within a few months to a few years of the admission of the case to the asylum; the average age at death in these twenty-nine cases was almost the same as in those with no history of head injury, namely, 43.3. In only a very few instances does there seem to be any causal relationship between the injury and the precipitation of the onset, or the acceleration of the course of the disease.

In 1,033 male necropsies there were sixty-one with a history of trauma and of these, twenty-nine were cases of general paralysis (the total number of male paralytic cases was 317), making about 9 per cent. general paralytics in which there is some history of a blow or a fall on the head. Of the 111 female general paralytics, there were only four with a history of trauma, therefore less than 4 per cent. Mott has carefully considered the following points in those cases in which trauma has been the reported cause, or contributory cause, of the paralysis; and the evidence afforded by the notes in the case-books in his judgment does not in a single instance allow one to assume that the head injury was the principal cause of the general paralysis from which the patient died. In some instances the destructive changes in the brain at death, together with the history and clinical symptoms, indicated a duration longer than the period of time between the date of injury and the date of death; in others, and they are not a few, the time elapsing between the date of injury and the onset of symptoms was too long to be accounted responsible as an exciting cause of the disease; in a great number of the cases the nature of the injury, whether severe enough to produce a temporary loss of consciousness or to require medical treatment, is not given, nor is the time and date of the injury mentioned, so that the influence of the injury in the production of the mental disease can never be appraised.

As a general result of his investigations, Mott has come to the conclusion that head injury as an exciting cause was not of much importance either in causing the onset of general paralysis or in accelerating the symptoms. At the same time he has met with a few cases in which undoubtedly head injury may have been the determining cause of the onset of the symptoms and it is not unreasonable to suppose that a syphilitic, if he or she had not received some exciting cause, such as a blow on the head, might never have developed general paralysis, but these cases are rare. General paralysis may not be discovered until an accident or a head injury takes the patient to a hospital or infirmary. There is one essential cause of general paralysis and that is syphilis. All conditions which lead, in a non-syphilitic subject, to neurasthenia may act as exciting and contributory factors; they are sexual excesses, head injuries, alcoholism, speculating, gambling, business worries, leading to prolonged mental excitement and insomnia, in fact, all forms of nervous excitement, singly or combined, which will lead to an exhausted nervous system, especially when acting on an inborn neurotic and erotic temperament in the subject of acquired or inherited syphilis.

Annales de Médecine et Chirurgie Infantiles, Paris

September 1, XV, No. 17, pp. 529-560

48 Simplicity and Ease of Puncturing the Pericardium Through the Epigastrium. (Ponction du péricarde par l'épigastre.) A. B. Marfan.
49 *Typhoid Fever in Infants. C. Achard and C. Flandrin.
50 *Relapse of Diphtheria After Measles. (Rechute de diphthérie après une rougeole.) L. Martin and H. Darré.
51 *Treatment of Malignant Diphtheria. (Traitement des angines diphtériques malignes.) M. Ségard.

49. **Typhoid Fever in Infants.**—Achard and Flandrin declare that the reason why typhoid fever is considered rare in infants is because no one thinks of applying serodiagnostic measures to babes in arms. And yet if this were done many a puzzling febrile affection in infants would be cleared up and the source of epidemics better traced. The typhoid syndrome in an infant simulates an ordinary gastro-intestinal trouble or meningitis or pneumonia. They report a case, the third in their experience. There was no history of typhoid in the environment but two sisters had died recently of supposed measles. The infant was 11 months old, breast-fed, and it recovered after a course of the typhoid of only thirteen days. The symptoms had been general depression and fever, diarrhea one day and then constipation, with vomiting. The lack of symptoms on the part of the lungs, intestines and meninges led to the suspicion of typhoid by exclusion. When the infant left the hospital its dejecta still contained typhoid bacilli. The treatment had been merely fifteen-minute tepid baths at 30 C. (86 F.) and regulation of the diet.

50. **Relapse of Diphtheria.**—A 2-year-old child had apparently recovered from a mild attack of diphtheria when he developed varicella and a suppurative otitis, followed by measles, all within two weeks. Three days after the onset of the measles, severe diphtheria developed. Martin and Darré explain this as due to interruption by the measles of the immunizing process going on in respect to the first attack of diphtheria. The measles sore throat opened up new portals of entry for the diphtheria bacilli still lingering in the throat. They state that the combination of measles and diphtheria has been unusually serious in their experience.

51. **Treatment of Malignant Diphtheria.**—Ségard emphasizes the necessity for intensive serotherapy in these cases and its harmlessness during the three weeks after the first injection, as signs of anaphylaxis do not develop until after this period. In malignant diphtheria the little patient should be watched hour by hour, examining the heart, pulse and urine as well as the throat, and giving antitoxin daily if necessary.

Archives des Maladies du Cœur, Etc., Paris

September, IV, No. 9, pp. 545-608

52 Changes in the Action of the Auricles in "Perpetual Arhythmia." (Note sur les transformations de l'activité auriculaire dans l'arythmie perpétuelle.) C. Esmein.
53 The Granulated and the Stippled Blood-Cells. (Différences de structure et de signification des hématies granuleuses et des érythocytes ponctués.) W. Alexieff.
54 Perforation of Blood-Vessels by Gunshot Wounds. (Note sur les perforations vasculaires produites par les balles de revolver.) Argaud and Thomas.

Obstétrique, Paris

September, IV N. S., No. 9, pp. 777-823

55 Malaria in Relation to Pregnancy, Labor and the Puerperium. (Le paludisme.) A. Laffont.

Presse Médicale, Paris

September 16, XIX, No. 74, pp. 737-744

56 *Pediatrics in the Medical Course. (Enseignement de l'hygiène et des maladies des nourrissons dans les facultés de médecine.) A. B. Marfan.
57 Technic for Salvarsan Treatment. (Technique des injections intraveineuses d'arsénobenzol.) M. Leredde.

September 20, No. 75, pp. 745-752

58 *Aqueous Solutions of Salts in Therapeutics. (La médication dialytique.) G. Hayem.
59 Disturbances in Hearing and Vision After Administration of Hectine. (Troubles auditifs et oculaires consécutifs à l'emploi de l'hectine.) G. Ballet and C. Hischmann.
60 *Treatment of Congenital Torticollis. P. Desfosses.
61 *Treatment of Constipation and Gastric Trouble by Reclining on Right Side. (Stase gastro-duodénale et décubitus latéral droit.) A. Martinet.

56. **Infant Hygiene and Pathology in the Medical Course.**—Marfan cites statistics to show that the infant mortality in France has declined regularly from 258 per thousand in 1892 to 117 in 1909, and that the mortality during the first few weeks of life is due to congenital debility or syphilis, both of which have to be combated during the pregnancy or before conception. After the first few weeks the mortality is due to digestive disturbances which can best be warded off by breast-feeding under practical supervision. Indifference, poverty and ignorance on the part of parents and midwives are cooperating factors which must be fought. He even hints that the ignorance of infant hygiene on the part of some physicians is not a negligible factor and that the medical schools are responsible for this. He urges that the infant consultations, day nurseries and similar institutions should form part of the daily routine of medical students to train them in the diseases and physiology of young infants which branch of pediatrics is too often neglected in the medical course, and that there should be an examination in infant hygiene and pregnancy before conferring the medical degree. (See Berlin Letter in The Journal, October 14, p. 1299.)

58. **Dialytic Medication.**—Hayem applies this term to dilute aqueous solution of salts, artificial mineral waters, of which he uses five special types, corresponding to the Carlsbad, Vichy and other mineral springs. He has been using them daily for twenty years in his practice with more and more satisfaction for stomach trouble and constipation and for mucomembranous enteritis. He insists that the composition of the solution must be identical each time, the dose and duration of the course carefully defined. The dose should be taken in the morning on the fasting stomach, at a temperature of 104 F. No. 1 is a mixture of 2.5 gm. sodium bicarbonate; 3 gm. sodium sulphate and 1 gm. sodium chlorid to 1 liter of water. The freezing point is 0.255 C. This is indicated in dyspepsia suggesting hyperfunctioning on the part of the secreting glands (hyperpepsia). About 250 gm. is taken in all at twenty-minute intervals, continuing for twenty-five or thirty-five days, no longer, gradually increasing to 500 gm. He cites as contra-indications tuberculosis, heart disease with failing compensation and gastric cancer. He is inclined to ascribe the benefit from this treatment to its action on the liver and pancreas augmenting the receptivity of the duodenum and thus curing the symptoms from the hyperpepsia, notwithstanding that analysis of the stomach content reveals the persistence of the hyperchlorhydria and hyperpepsia, until the vicious circle is entirely broken up. His solution No. 2 contains 5 gm. sodium chlorid and 2 or 3 gm. sodium sulphate to the liter; it is taken fasting in doses of 200 or 250 gm. for four or six weeks as an aid in hypopepsia with a tendency to constipation, especially for patients who have been drugging themselves to excess. No. 3 is the same as No. 2 only that sodium phosphate is used instead of the sulphate. Both are mildly laxative. No. 4 contains sodium chlorid 3 gm. and sodium sulphate 5 gm. to the liter of water. It is useful for sluggish liver and in mucomembranous enteritis in doses of 300 or 400 gm., especially for hyperpepsia with constipation. No. 5 contains 10 gm. sodium sulphate and 5 gm. sodium chlorid to the liter of water. This is a powerful laxative and the daily dose should not be over 250 gm. and not taken for more than a week or two.

60. **Treatment of Congenital Torticollis.**—Ballet and Hitschmann insist on the necessity for wearing a correcting appliance and exercising the muscles after the sternocleidomastoid has been divided. The operation on the muscle is only the preliminary to these measures.

61. **Position Treatment of Gastroduodenal Disturbances.**—Martinet ten years ago called attention to the efficacy of position in treatment of disturbances in the stomach not due to a permanent mechanical obstruction or organic lesion. He has the patient recline on a bed or lounge when he feels discomfort, lying on the right side, the head raised a little, and in this position sip a glass of hot chamomile or linden flower infusion. The pylorus region thus becomes an upright funnel and the upper end of the duodenum slants downward so that the fluids which have passed through the pylorus do not accumulate and stagnate just beyond in what Holzknecht calls the duodenal bulb. Both duodenum and pylorus are soon emptied by the force of gravity.

Revue de Chirurgie, Paris

September, XXXI, No. 9, pp. 391-518

62 *Ligation of Thyroid Arteries, Especially in Exophthalmic Goiter. (Ligature des artères thyroïdiennes principalement dans la maladie de Basedow.) X. Delore and H. Alamartine
63 Sporothrix Elbow Arthritis. (Arthrite sporotrichosique.) Sorrel and Verdun.

62. **Ligation of Thyroid Arteries.**—Delore and Alamartine review the experiences in this line at Poncet's clinic at Lyons after a historical sketch of the subject and an illustrated discussion of the anatomy of the thyroid vessels. Experiments on animals seem to show that ligation of one or more of the arteries has no appreciable physiologic effect, but the gland shows histologic changes unmistakably reducing the total of functional capacity. The technic for ligation used by various surgeons and a detailed summary of the work in this line by Berg and Ackermann of Stockholm in fifty-two cases and by Kocher of Berne in fifty-nine cases are compared. Mayo's 225 cases are mentioned but the lack of details, they say, prevent comparison of results. The final conclusions from all these data are that ligation of the thyroid arteries is a logical and safe operation to reduce hyperfunctioning of the thyroid. Mayo's polar ligation of the superior arterial pedicle shuts off both vessels and nerves. When the inferior artery is to be ligated, the best mode of access is back of the sternocleidomastoid muscle. Vascular struma and exophthalmic goiter are the main indications for the ligation; it is contra-indicated in secondary exophthalmic goiter and in exophthalmic goiter of nervous origin. With extremely vascular exophthalmic goiter and in the rapidly progressive toxic forms, ligation of three or four arteries is urgently indicated, even if it is merely preliminary to a radical operation. In mild cases it is well to commence with ligation of the two superior arterial pedicles; if this proves ineffectual, follow with hemithyroidectomy. In cases of moderate severity commence by ligating both arteries of the lobe showing the greatest enlargement; then ligate the superior artery on the opposite side, and, if necessary, follow with a complementary hemithyroidectomy.

Semaine Médicale, Paris

September 20, XXXI, No. 38, pp. 445-456

64 Technic for Gastro-Enterostomy. (La gastro-entérostomie de choix avec ou sans exclusion du pylore, dans l'ulcère du duodénum.) B. Schiassi.

September 27, No. 39, pp. 457-468

65 Present Status of Knowledge in Regard to Anaphylaxis. (Etat de nos connaissances sur l'anaphylaxie au cours des deux dernières années.) E. de Peyrelongue.
66 *Present Status of Arteriovenous Anastomosis for Gangrene of the Leg. (Que faut-il penser de l'opération de Wieting?) F. Lejars.

66. **Arteriovenous Anastomosis for Gangrene.**—Lejars compares the arguments presented by Wieting in favor of this operation and those who denounce it as unphysiologic and dangerous. Lejars comments that Wieting, himself, says that the operation is feasible only for young and vigorous persons, without infection and when the character of the gangrene is not directly menacing. In cases such as these, Lejars remarks, a spontaneous favorable outcome is possible while there is danger that this might be compromised by the operation's inducing thrombosis. He does not definitely reject the operation but he insists that those who apply it should fully understand the dangers they thus incur. See Abstract 78 below.

Beiträge zur klinischen Chirurgie, Tübingen

August, LXXV, Nos. 1-2, pp. 1-473

67 Transplantation of Bone from the Cadaver; Three Cases. (Transplantation aus der Leiche.) H. Küttner.
68 Sterilization of Field of Operation with Tincture of Iodin. (Die Jodtinktur als Desinfektionsmittel des Operationsfeldes.) K. Fritsch.
69 *Experimental Research on Treatment of Acute Suppurative Arthritis. (Zur Therapie der akuten eitrigen Gelenkentzündung.) L. Dreyer.
70 *Movable Cecum. (Zur Frage des Coecum mobile.) L. Dreyer.
71 *Gangrene of Penis and Scrotum. (Die Gangrän des Penis und Scrotums.) H. Coenen and J. Przedborski.
72 Errors from Iodipin in Interpretation of Roentogram. (Jodipin im Röntgenbilde.) K. Fritsch.
73 Isolated Fracture of the Greater Tuberosity of the Humerus. (Zur Kenntnis des isolierten Frakturen des Tuberculum maius humeri.) E. Melchior.
74 Fracture of the Calcaneus. (Zur Beurteilung der Calcaneusfraktur.) K. Ludloff.
75 *Conservative Treatment of Prolapse of Rectum. (Eine neue konservative Behandlungsmethode des Mastdarmvorfalls.) A. Bauer.
76 Teratomas of the Pelvis. (Ueber Teratome der Kreuz-Steissbeingegend und der Bauchhöhle.) A. Bauer.
77 Hour-Glass Stomach. (Zur Klinik des Sanduhrmagens unter Zugrundelegung von 34 Fällen.) K. Spannaus.
78 *Arteriovenous Anastomosis. (Ueber das Problem der Umkehr des Blutstromes und die Wieting'sche Operation.) H. Coenen and Wiewiorowski.
79 *End-Results of Treatment of Exophthalmic Goiter. (Dauerresultate operativer und konservativer Therapie bei der Basedow'schen Krankheit.) M. Baruch.
80 Prothesis to Substitute Entire Lower Jaw; Two Cases. (Totalersatz der Mandibula.) H. Riegner.
81 *Transplantation of Parathyroids. (Die Epithelkörperchen-Transplantation in die Blutbahn.) F. Landois.

69. **Treatment of Acute Suppurations in Joints.**—Dreyer found it possible to prevent suppuration in experiments on animals by injection of various powerful disinfectants after infection. Phenol. salvarsan and tincture of iodin were particularly effectual and he thinks that the latter has a promising future in this line. He tried it in a few clinical cases with eminent success. In one patient, a tuberculous girl with an acute painful affection of the knee, after injections of 3 or 5 c.c. of a 5 per cent. tincture of iodin, diluted with alcohol, the pains subsided and the lesion healed as was seen at necropsy after the patient had succumbed to miliary tuberculosis. The pains subsided at once in another case in a woman of 62 with a severe tuberculous affection of the knee requiring amputation. In a third case a boy of 16 had multiple osteomyelitis. The involvement of the knee was treated by the iodin injections and speedily healed while the other foci dragged along a tedious course. The patella was left movable and the lad is regaining the use of his knee. Dreyer thinks that these experiences with iodin justify conservative measures in treatment of arthritis more than has been possible hitherto.

70. **Movable Cecum.**—Dreyer has been studying conditions on the cadaver to determine whether movability of the cecum can be regarded as pathologic. He states that in 67 per cent. of 105 cadavers, free from any history of special intestinal trouble, he found the cecum freely movable. He further experimented to ascertain whether cecopexy produced physiologic conditions, which he found rather dubious. Among the fifty-two female cadavers the cecum was freely movable in 79 per cent. and in the few in which it was fastened, it never occupied the position in which it is placed by the routine cecopexy.

71. **Gangrene of Penis and Scrotum.**—Coenen and Przedborski summarize the details of 203 cases and add three others from their experience. In many cases the trouble was a gangrenous erysipelas. In twenty-one cases the gangrene was a secondary process and the mortality was 18.5 per cent.; in twelve cases the gangrene developed from infiltration of urine and the mortality was 8.3 per cent. It was 21.4 per cent. in twenty-eight cases in which some mechanical or chemical injury or exposure to heat or cold was responsible for the process. In the 145 cases in which the gangrene occurred in the course of a local inflammatory process, the mortality was 22.1 per cent. Good results were obtained in some cases with the actual cautery. A plastic operation afterward is seldom necessary, especially for children and even for adults as Nature restores the defect sometimes most effectually, as is shown by some of the cases cited

75. **Treatment of Prolapse of the Rectum.**—Bauer has had six children wear a celluloid corset fitting around the waist and upper part of the buttocks applying elastic spring pressure to the fold between the nates just above the anus. This lifts up the sagging pouch of Douglas which he thinks is generally responsible for the prolapse, and in a short time of wearing the corset physiologic conditions are restored and the tendency to prolapse is cured. This result was accomplished in the above six cases in from two to several weeks.

78. **Arteriovenous Anastomosis for Gangrene.**—Coenen and Wieweorowski report experiments on twenty-six dogs and on eighteen cadavers attempting to divert the blood from the femoral artery into a vein, and review thirty-four cases from the literature in which this was done, and give another case from their own experience. The end-to-side anastomosis is generally known in Germany as Wieting's operation. Their final conclusion is that it does not deserve to rank as a feasible operation as it conflicts with the anatomy and physiology of the parts. In the thirty-five clinical cases death followed in less than two days in two cases; in twelve in a few days from erysipelas, phlegmon or collapse; in one case the large intestine became gangrenous four months later and amputation had to be done later in twenty cases. In only two of the total number were the end results favorable—in Heymann's and Wieting's cases. (Wieting replies to Coenen in the last *Zentralblatt für Chirurgie* and states that he now has a record of five cases, all successful, and that these results speak louder than Coenen's more theoretical objections. (See Abstract 66 above.)

79. **End-Results of Treatment of Exophthalmic Goiter.**—Baruch reviews the ultimate outcome in ninety cases of exophthalmic goiter treated at the Breslau clinic. These are the only ones that could be followed to date of 164 cases, including eighty-two patients treated by medical measures only. The survivors include forty who had been operated on and only twenty of the eighty-two treated by medical measures alone. Marked benefit or a cure was realized in all but six of the total forty surgical survivors, while not one of the surviving medical twenty can be regarded as cured and only two as improved, while 90 per cent. show no benefit. Comparing the findings in regard to the various symptoms in the medical and surgical cases confirms still further, he thinks, the superiority of operative treatment and should compel an early operation. Hitherto the cases have not been referred to a surgeon until after failure of all internal measures, but he insists that exophthalmic goiter should be regarded as a surgical affection from the start, and that only the most desperate cases should be left in the hands of the internists. After a four-year course the outlook for benefit from any measures is poor. In 46 per cent. of the cured survivors the duration of the disease had been only six months and in 84.8 per cent. less than two years. He adds that patients with exophthalmic goiter not only belong in the surgical ward but that they should be sent there early.

81. **Transplantation of Parathyroids.**—Landois reports discouraging results from extensive experimental research in this line. Even when the transplantation proved successful and the implanted gland retained its vitality and was constantly bathed with circulating blood, yet the experience failed in every particular, showing that there is little hope for successful transplantation in the clinic of organs with an internal secretion.

Berliner klinische Wochenschrift

September 25, XLVIII, No. 39, pp. 1741-1784

82 *Birth Laceration of Atlas-Axis Capsular Ligament. (Zerreissungen der intervertebralen Gelenkkapseln der Halswirbelsäule, eine typische Geburtsverletzung.) F. Stoltzeberg.
83 Morbid Growths in Potatoes and Their Causal Agents. (Der Kartoffelkrebs und sein Erreger.) R. Behla.
84 *Hypernephroma (Nierentumor—Grawitz—bis i '. Kirschner.
85 *Meiostagmin Ino (Ueber Meiostagminreaktion *in vivo* bei bösartigen Geschwülsten.) G. Izar.
86 *Eye Diseases in South Sea Islands. (Weitere Untersuchungen über die Augenkrankheiten in der Südsee.) A. Leber and S. v. Prowazek.
87 Treatment of Lupus by the Two-Route Method. (Behandlung des Schleimhautlupus nach Pfannenstill's Methode.) O. Strandberg.

88 *Acetonuria in Pregnancy. (Ursache der Acetonurie bei Schwangeren.) O. Porges and J. Novak.
89 *Influencing of Temperature of Older Children by Slight Physical Efforts. (Beeinflussung der Körpertemperatur im späten Kindesalter durch geringe Anstrengungen.) A. Wolff.
90 *Syphilitic Heart Disease. (Ueber die syphilitischen Herzerkrankungen als Indikation und Kontra-Indikation für die M. Breitmann.
91 atment. (Zur ambulanten Behand- delnen Salvarsandosen.) E. Simon.
92 (Behandlung der Lungenentzün-

82. **Laceration of Capsular Ligaments During Delivery.**—Stoltzenberg found in nine out of seventy-five cadavers of new-born infants that the capsular ligament between the atlas and axis had been lacerated. The laceration was always circular and evidently occurred by traction on the cervical region of the spine, pulling it out of the longitudinal axis. The injury is liable to be fatal from hemorrhage into the spinal canal and meninges.

84. **Hypernephroma Encroaching on the Heart.**—In the case reported by Kirschner the first disturbances were not local but were in the form of heart symptoms with great weakness, long before symptoms called attention to the urinary apparatus. Then hematuria followed and a tumor was discovered in the left kidney; it proved on removal to be a hypernephroma from aberrant suprarenal tissue proliferating into the ascending vena cava with a tumor thrombus up in the right auricle. Jumping the right ventricle it had proliferated into the pulmonary artery. The symptoms on the part of the heart had been observed for five years, a year and a half before there were disturbances in the urinary apparatus. Kirschner reviews a few similar cases of malignant thrombus formation in the literature, Winckler having had two as extensive as this in his twenty-four cases of hypernephroma. Kirschner urges others to seek for symptoms on the part of the heart with tumors of this kind.

85. **The Meiostagmin Inoculation Reaction.**—Izar recently reported that he had found that an aqueous emulsion of an ether or methyl alcohol extract of malignant tumors or pancreas, heated for an hour to 50 C. developed extremely toxic properties. If a mixture of the extract thus heated and blood-serum is centrifugated, the toxic property is concentrated in the supernatant fluid in the non-cancerous cases while it is concentrated in the sediment when the serum is derived from persons with malignant disease. The technic is the same as for the meiostagmin reaction up to the centrifugation. The sediment is mixed with salt solution and this suspension is injected into rabbits. The rabbits die within twenty-four hours when the sediment is from a cancer case, and he calls this the "meiostagmin reaction *in vivo*." He obtained positive findings in nineteen of twenty-one cancer cases and in only two of thirty-two non-malignant cases. The findings with this and the original meiostagmin reaction were constantly parallel, except that in a very few instances the *vivo* gave positive findings with known cancer when the meiostagmin reaction failed.

86. **Eye Disease in the South Sea Islands.**—Leber and Prowazek report here the results of research undertaken on a commission from the institute for marine and tropical diseases at Hamburg. They found four types of eye disease on the island of Saipan, trachoma on some of the islands and a conjunctivitis in horses, like that already described at Samoa.

88. **Cause of Acetonuria in Pregnancy.**—Porges and Novak found intense acetonuria in two diabetic women free from sugar in the urine on antidiabetic diet. This and research on some normal pregnant women has demonstrated, they state, that acetonuria in pregnancy is the result of a relative deficiency of carbohydrates in the diet. The pregnant women seem to be less able to tolerate a deficiency in carbohydrates. The data learned from pregnancy acetonuria sustain still further the assumption of impairment of liver functioning under the influence of pregnancy.

89. **Influencing of the Temperature of Children by Slight Exertion.**—Wolff found that examination of the temperature in fifty children before and after they were told to run upstairs or take some other slight exercise, showed that this exertion caused a slight rise in temperature in thirty-seven of the children. Fluctuation in the temperature after slight exertion must be regarded as a typical normal property of childhood and by no means be accepted as an evidence of tuberculosis or other latent affections. Even a ten minutes' walk or climbing a flight of stairs may send up the temperature. He concludes that the temperature findings are reliable for comparison *only* when they are taken when the children are quiet *in bed*. It is possible, he adds, that sensitive children may have their vitality depressed by this rise in temperature which may explain why certain children feel exhausted after a walk instead of refreshed by it. Conditions are better when the children are playing, as in their play, movement and rest alternate more than in a promenade.

90. **Syphilitic Heart Disease.**—Breitmann had a monograph on this subject awarded a prize twelve years ago, and he has been studying it with special care ever since, with exceptional opportunities for research as, he says, syphilis runs its most triumphant course in the small towns of Russia, reigning unmolested by treatment until the patients are driven to the physician by severe tertiary manifestations. Syphilitic affections of the heart have certain characteristic symptoms although none is pathognomonic. Gumma in the heart is seldom diagnosed, as its slow development and its predilection for the "mute" regions of the heart cause its presence to be long unsuspected unless the physician tests the functioning of the heart muscle and finds signs of weakness. But this is the explanation for many instances of sudden death in the midst of apparent health, especially in the young or middle-aged. Breitmann, Mracek and Jullien found syphilis of the heart responsible for the sudden death in from 33 to 50 per cent. of such cases, especially after physical exertion, bicycling, hydrotherapeutic measures, straining at stool or excess in drinking, etc., or slight external trauma. Even in the earliest stages of syphilis there may be symptoms on the part of the heart from disturbances in the heart muscle of anemic or toxic origin, and many supposed rheumatismal heart affections and hemiplegias are in reality of syphilitic origin. This should be suggested by the rapid onset of the heart affection with no or slight fever, with sudden weakness in the midst of apparent health; death may occur suddenly or the trouble drag along for months or years without signs of valvular mischief and without being influenced by the ordinary heart tonics. Another sign is the apparent increase in the area of dulness, without murmurs or other objective signs, while the force of the heart-beat does not increase in proportion, that is, a strong heart-beat is accompanied by only slight filling of the arteries. A progressive gummatous affection should be suspected when the heart-beat is strong but not diffuse, with a rapid pulse and tachycardia, the sounds sharp, brief and pure. If the heart beat is stronger and its area larger, but the pulse small, the gummatous affection may be referred to the left ventricle. In a recent case there was abnormal pulsation in the left ventricle, while the heart beat was absent and no heart sounds could be heard—this case represents the extreme type. Certain patients feel a slight flickering uneasiness in the chest as the extrasystole starts; others feel as if their hearts stood still during the long pause; others notice particularly the powerful beat that follows the long pause. But most patients are unaware of the irregularity from the extrasystole. A special feature of syphilitic heart disease is the disproportion between the objective findings and the actual anatomic condition; also the youth of the patients—some of his patients were only 13 when the aortic aneurysm or insufficiency or arteriosclerosis developed—also the occurrence of intermittent dyspnea and syphilitic angina pectoris. With the latter there may be an unusual passive movability of the heart, propagation of the second aortic sound to the right and upward, and involvement of other portions of the nervous and vascular systems. The one great clue is the prompt benefit from treatment as for syphilis unless irreparable conditions are already installed. The main point is to spare the heart every unnecessary exertion, and especially spare it from the effects of strong drugs. He has known of cases in which digitalis had a fatal action on a heart weakened by syphilitic disturbances in conduction or a coronary affection. The first thing is to inform the patient of

the danger in which he stands from any physical exertion. During the Adams-Stokes syndrome, the patient may derive benefit from kneeling on his knees and elbows, the Mohammedan prayer attitude; the "Karell cure" may also prove useful. Breitmann's principle, he says, is to apply "chronic," vigorous, intermittent treatment during the earliest stages of a syphilitic heart affection, but the nearer the disease to the tertiary stage, the more the gummatous tendency in the heart has led to cicatricial changes or induration, the more cautious he is in regard to any vigorous treatment or measures of any kind. This applies in particular, he adds, to salvarsan. It may be possible with salvarsan to arrest the heart affection in its early stages and ward off trouble later, but it must be borne in mind that salvarsan has a very powerful action on the heart and circulation, especially if given intravenously as is the rule now. The elasticity of the vessels is much impaired in syphilis and careful search for symptoms on the part of the heart might have revealed some which would have contra-indicated the medication in some of the cases on record in which death followed the injection of salvarsan or over-vigorous mercurial treatment.

Centralblatt für die Grenzgebiete der Med. und Chir., Jena

August 30, XIV, No. 12, pp. 449-480. Last indexed August 26, p. 776

93 *Diagnosis of Cancer. (Neuere Untersuchungsmethoden der Carcinomdiagnostik.) P. Saxl. Commenced in No. 10.

September 16, No 13, pp. 481-528

94 *Pyelitis in Pregnancy. (Pyelitis gravidarum.) E. Venus. Commenced in No. 10.

93. **Modern Diagnostic Measures in Cancer.**—Saxl has been a pioneer in this line himself and here gives a summary of the various technics to induce a general or local reaction or utilize the natural reactions to differentiate malignant disease, explaining the scientific bases for each and the acceptance each has received from the profession. He says of the antitrypsin reaction (Brieger) that this is not strictly specific, at most in the sense that negative findings seem to exclude cancer. The meiostagmin reaction (Ascoli) seems to be giving reliable results, the findings being positive in almost every case of carcinoma and sarcoma and negative in the controls. But the technic is difficult. The cancer cell-destroying seroreaction (E. Freund) seems reliable and the technic simple except for the difficulty of obtaining the cancer cell material, as the cells of many cancers are not dissolved by normal serum, which is the basis of the test. The increase of oxyproteids in the urine in malignant disease (Salomon and Saxl) seems to be a constant phenomenon. Saxl found it in 70 per cent. of 500 cancer cases and only in five of a large number of controls. Various technics have been introduced for determining the proportion of oxyproteids, which are polypeptid bodies containing sulphur. Determination of the sulphur alone also throws light on the presence or absence of malignant disease. The technic for this is very simple: The sulphates and ethereal sulphates are removed from 150 c.c. of urine. Part of the remaining neutral sulphur is then oxidized out with dilute hydrogen dioxid and it becomes visible as a barium sulphate precipitate. Antipyrin and creosote disturb this reaction. Positive findings were obtained in 60 or 70 per cent. of the patients examined, especially pronounced with the still relatively well nourished patients, while the findings were constantly negative in 150 controls with a single exception, a moribund patient with cirrhosis of the liver. Of the reactions in the stomach content, Salomon's test has proved valuable, frequently disclosing the presence of an ulcerating gastric cancer, when all other signs had failed. A few benign ulcers give the reaction too. The technic is simple: The day before the patient eats nothing containing albumin, restricting himself to fluids. At evening the stomach is rinsed out clean and again in the morning with 400 c.c. salt solution. The rinsing fluid is filtered and tested for albumin and nitrogen. Positive findings with the Esbach test and a finding of 20 mg. of nitrogen testify to the presence of an ulcerating carcinoma. Many clinicians have published evidence in favor of the reliability of this test while three do not accept its findings, but Saxl commends the simple technic as indispensable in dubious cases. He does not think that the glycyl-tryptophan-splitting test has yet proved its right to existence, while the sources of error in the test based on the presence of a hemolytic substance in the stomach content render this test impracticable at present. In conclusion he cites without comment the latest contribution to the diagnosis of gastric cancer: Falk and Salomon's salicylate method. They give 3 gm. sodium salicylate in an enema and rinse out the fasting stomach the moment salicylic acid becomes evident in the urine. While the salicylic acid cannot be detected in the stomach fluid of the non-cancerous, with ulcerating gastric cancer, large proportions of salicylic acid are found in the stomach content; benign ulceration only very rarely permits the passage of the salicylic acid into the stomach.

94. **Pyelitis of Pregnancy.**—Venus gives a critical summary of 224 articles that have been published on pyelitis complicating pregnancy. The actual cause is not definitely established although stagnation of urine is evidently a prominent factor. Infection is generally ascending although it may be occasionally of blood-borne origin. The colon bacillus is generally responsible for it. Especial attention should be paid to a history of pyelitis in childhood. The diagnosis is usually simple but it may be necessary to exclude appendicitis, impending abortion and suppuration around the kidney. The prognosis is not absolutely favorable for the mother as complete restitution is seldom observed and there is liability to recurrence at later pregnancies, but there is no immediate danger to life. The prognosis is unfavorable for the child, as it is menaced by the tendency of the uterus to expel its contents during an attack of pyelitis and it may be necessary to interrupt the pregnancy artificially in the interest of the mother. Treatment should be conservative and expectant. Catheterization of the ureter and irrigation of the kidney pelvis are indicated in all severe cases and are often of great benefit. It is only rarely necessary to consider the question whether the pregnancy should be artificially terminated, but operative measures are required for serious degenerative processes in the kidney, such as pyonephrosis, multiple abscesses or calculi.

Correspondenz-Blatt für Schweizer-Aerzte, Basel

September 20, XLI, No. 27, pp. 929-960

95 Psychiatric Notes. (Psychiatrische Mitteilungen.) G. Glaser.

96 Infectious Diseases in Youth in Etiology of Arteriosclerosis. (Aetiologie der Arteriosklerose.) S. Saltykow. Commenced in No. 26.

Deutsches Archiv für klinische Medizin, Leipsic

CIII, Nos. 3-4, pp. 201-422. Last indexed September 2, p. 858

97 Etiology of Dupuytren's Contraction. (Zur Aetiologie der Dupuytren'schen Kontraktur.) W. Ebstein.

98 *Meningeal Symptoms with Infectious Diseases. (Ueber Meningismus bei Infektionskrankheiten.) L. Kirchheim and Schröder.

99 Blood Picture in Epidemic Cerebral Meningitis. (Das Blutbild der Meningitis cerebrospinalis epidemica und dessen diagnostisch und prognostische Bedeutung.) Rusca.

100 Research on the Pulse. II. (Pulsstudien.) E. Edens.

101 Where Oxidation Occurs in the Organism. (Ort der Verbrennungen im Organismus.) P. Morawitz.

102 The Salt Metabolism in Health. (Beobachtungen über den Stoffwechsel des gesunden Menschen.) H. v. Hoesslin.

103 *Colloidal Nitrogen in Urine in Cancer. (Ueber den kolloidalen Stickstoff im Harne der Krebskranken.) S. Mancini.

104 Tumor in the Heart; Two Cases. (Zur Kenntniss der Pathologie und Symptomatologie der Herztumoren.) L. Ehrenberg.

105 *Sclerosis and Dilatation of Innominate Artery. (Sklerose und Erweiterung des Truncus anonymus.) E. Stadler and

106 nation of Diastase in the
im Harn.) E. Marino.

107 Serum. (Die Antitrypsin
des Serums.) H. Kammerer.

108 Rising of Diaphragm During Deep Inspiration with Induced Pneumothorax and Paralysis. (Die paradoxe Zwerchfellbewegung bei künstlichen Pneumothorax und Zwerchfelllähmung.) C. Wellman.

109 Importance of Epinephrin to Vital Processes. (Bestehen Beziehungen zwischen chromaffinem System und der chronischen Hypertonie des Menschen? Ein kritischer Beitrag zu der Lehre von der physio-pathologischen Bedeutung des Adrenalins.) E. Frank.

110 Outline of Heart with Congenital Heart Disease. (Form der Herzsilhouette bei den angeborenen Herzkrankheiten.) T. and F. M. Groedel.

98. **Meningeal Symptoms with Infectious Diseases.**—Kirchheim and Schröder report two cases in which an acute or chronic suppurative meningitis was found at necropsy although there had been none of the usual symptoms of this affection

during life until the agonal phase. These cases show that the anatomic and clinical features of meningitis do *not* always correspond. They also report five cases in which nothing was found at necropsy to explain the meningitic symptoms observed during life in the course of pneumonia or scarlet fever. In two other similar cases the microscope revealed specific changes in the meninges. The meningeal symptoms are evidently the result of toxic action. The question as to whether this meningism is only the first stage of meningitis is still undecided.

103. **Colloidal Nitrogen in Urine in Malignant Disease.**—Mancini says that determination of the colloidal nitrogen in the urine is a simple and easy process, and the findings in case of malignant disease seem to be constantly characteristic. The colloidal nitrogen is that portion of nitrogen which is precipitated in the urine by absolute alcohol (Salkowski). In all morbid conditions in which colloidal substances pass into the lymph and blood in larger proportions, as during absorption of effusions and exudates, and the kidneys are working properly, the amount eliminated is unusually large in proportion. This occurs with cancer but also with pleurisy, cirrhosis of the liver, suppurative processes, etc. Mancini tabulates the findings in a number of cancer and other cases. The proportion of colloidal nitrogen to the total nitrogen is about 3.42 per cent. in normal urine and about 6.48 per cent. in cancer. If the urine at first was alkaline he rendered it slightly acid with acetic acid, and if it contained albumin, he freed it from this by boiling. The total nitrogen was determined by the Kjeldahl applied to 5 c.c. taken from the twenty-four hour urine. He then evaporated 100 c.c. from the twenty-four hour urine to 10 c.c. in the water bath, then cooled it and added 100 c.c. of absolute alcohol to precipitate the nitrogen. After standing for several hours he filtered and rinsed the filtrate with alcohol until the rinsing alcohol showed no further trace of urea. The precipitate was then dissolved in hot water and filtered and the proportion of nitrogen determined by the Kjeldahl test.

105. **Sclerosis of the Innominate Artery.**—In the two cases reported by Stadler and Albracht the symptoms suggested an aortic aneurysm but roentoscopy revealed general arteriosclerosis, most pronounced in the innominate artery which was dilated but without an actual aneurysm. They discuss the differentiation of the resulting syndrome, especially the percussion findings.

Deutsche medizinische Wochenschrift, Berlin

September 21, XXXVII, No. 38, pp. 1729-1776

111 Heredity Problems; Excess of Male Births. (Ueber die Frage des Knaben[illegible]n-Ueberschusses und über andere [illegible] Jendrassik.
112 [illegible] Standpoint. (Genealogie und [illegible] vom psychiatrischen Standpunkt.) R. Sommer.
113 *Serotherapy of Epidemic Cerebrospinal Meningitis. (Serumtherapie der epidemischen Genickstarre.) G. Jochmann.
114 Te[illegible] of Syphilis. (Verwendung von [illegible]mdiagnostik der Syphilis.) W.
115 *Su[illegible]itis Media. M. A. H. Martens.
116 Improved Technic for Intubation in Diphtheria. (Erschwertes Dekanülement durch Vernähung der oberen Knorpelränder nach aussen zu beseitigen.) A. Hartmann.
117 *Salt Solution Responsible for By-Effects of Salvarsan. (Ueber [illegible]en Salvarsan-Injektionen, E. E. Galewsky.
118 *Sa[illegible] und Auge.) E. Reissert.
119 Volitional Contraction of the Pupil. (Pupillenverengerung durch willkürliche Muskelbewegung.) E. Schlesinger.
120 Dosage in Roentotherapy. (Zur Dosierung mit dem Radiomètre de Sabouraud et Noiré.) M. Levy-Dorn.
121 Quinin Effectual in Urticaria. (Zur Therapie der Urticaria.) W. Wolff.
122 The Darwinian Theory. (Die Darwinsche Lehre im Umschwung der Zeiten.) G. Fritsch.

113. **Serotherapy of Epidemic Cerebrospinal Meningitis.**—Jochmann reviews the history of serotherapy of this disease and his own experience with it, the indications and results. Success depends on commencing treatment early, he says, injecting the serum into the spinal canal, with not too small doses. The treatment is aided by raising the foot of the bed for 15 to 20 cm. for twelve hours after each injection. It seemed to be borne without discomfort by the patients as a rule, but morphin had to be given in a few cases. The patients usually regained consciousness after the injection, the cerebrospinal fluid cleared up and the condition grew progressively better. In two cases, commencing optic neuritis retrogressed under the serotherapy. He is convinced that with proper dosage and wider application meningococcus serotherapy of epidemic meningitis will save many patients.

115. **Surgical Complications of Otitis Media.**—Martens discusses in particular fracture of the skull with preexisting otitis media, acute or chronic. With existing infection the mastoid process should be opened and he relates some experiences in this line, showing the advantages of surgical treatment even when infection is only menacing, but he doubts whether it is necessary in all cases of fracture of the skull. He has operated in three cases of abscess in the cerebellum with chronic otitis media. One patient succumbed to the existing meningitis and sinus thrombosis; another survived for several weeks but succumbed to progressing encephalitis. In the third case a small boy with a cerebellar abscess recovered promptly after evacuation of the abscess. In Henke's compilation of twenty-three cases of cerebellar abscess, only one of the patients survived, while seventeen survived in fifty-three cases of abscess in the temporal lobe. Martens has cured two patients on whom he operated for an epidural abscess following otitis media, as also in several cases of sinus thrombosis of this origin.

117. **By-Effects with Salvarsan.**—Galewsky has treated 370 syphilitics in the last six months with intravenous injections of salvarsan. The by-effects were always slight and transient until in a group of cases there was a succession of annoying by-effects which he finally traced to the salt solution vehicle. Since he has been paying greater care to the production of the salt solution there has been no further trouble of the kind.

118. **Salvarsan and the Eye.**—Reissert discusses this subject from the standpoint of the ophthalmologist, after summarizing the eighteen cases on record in which injury of the eye followed the injection of salvarsan in from ten days to three months. He also reports a case from his own experience in which a young man previously healthy was given a subcutaneous injection of 0.4 gm. of salvarsan a few days after the primary chancre, and eight weeks later another of 0.5 gm. of salvarsan. There were no symptoms for two months but then pain in the right side of the head and face developed and right optic neuritis and retinitis. While the other symptoms subsided under mercurial treatment, the neuritis progressed and vision was lost. Comparison of this case with those on record has convinced Reissert that the optic neuritis was due to injury from the salvarsan stored up in the tissues from the two subcutaneous injections.

Deutsche Zeitschrift für Chirurgie, Leipsic

CX, Nos. 4-6, pp. 313-634

123 Projecting Spur at Occiput. (Der Occipitumdorn, ein Beitrag zum Calcaneussporn.) J. G. Chrysospathes.
124 Partial Resection of the Kidney for a Cystic-Epithelial Tumor. (Ueber partielle Nierenresektion.) J. Fabricius.
125 Three Years of Appendicitis at Berlin Hospital. (Blinddarmentzündung.) T. Gümbel.
126 *Isolated Subcutaneous Rupture of the Trachea. Beyer.
127 *Treatment of Angiosclerotic Gangrene by Diverting Arterial Blood into Venous System. Wieting.
128 Invagination of Intestines. (Ueber Darminvaginationen.) H. Matti.
129 Extraperitoneal Embedding of Omentum in the Kidney as a Therapeutic Measure, Especially to Promote Diuresis with Ascites; Six Cases. R. Torikata.
130 Ideal Operation for Arterial Aneurysm. (Beitrag zur zirkulären Gefässnaht am Menschen.) K. Omi.
131 Intraperitoneal Rupture of Bladder. A. Galaktionow.
132 *Perforation of Ulcer in Duodenum. (Ueber den jüngsten bekannten Fall von Ulcus duodenum perforatum.) L. Imfeld.
133 Anatomic Bases for Transposition of Sphincter Portion in Resection of the Rectum. J. Fleissig.
134 Second Case of Operative Removal of Subpial Tumor in Spinal Cord H. Brun.
135 Tuberculosis of the Testicles. (Experimentelle Beiträge zur Hodentuberkulose.) W. Tylinski.
136 Origin of Deforming Arthritis. Axhausen and I. Pels.
137 Benign Tumors in the Head. (Beitrage zu den gutartigen Tumoren der Kopfregion.) L. Arzt.
138 *Treatment of Suppurative Peritonitis with Saline Irrigation and Constant Heating of the Abdomen. Iselin.
139 Congenital Displacement of the Kidneys. (Zur Pathologie und Therapie der kongenitalen Nierendystopie.) A. Lindemann.
140 Free Transplantation of Fascia to Close Defect in Abdominal Wall and Fistula into Intestine. Rittershaus.
141 Myonephropexy. Jacobovici and Jianu.

126. **Isolated Rupture of the Trachea.**—The rupture occurred in a boy of 9 from a contusion. The trachea was exposed at once, a cannula introduced, and removed in four days, as recovery was prompt and uncomplicated. The rapid recovery in this case should encourage immediate operation for all isolated ruptures of the trachea, as serious complications are liable to develop otherwise at any moment.

127. See Abstracts 66 and 78 above.

132. **Perforated Duodenal Ulcer in Boy of 15.** Imfeld reports a case of perforation of a duodenal ulcer in a boy of 15½, with operation at the seventeenth hour, after general peritonitis had developed. He attributes the boy's recovery in part, to the exact suture of the perforation, rinsing out of the abdomen and keeping the patient in a half-seated position. Imfeld comments on the better results with these operations in late years, the mortality having dropped since 1902 from 80 per cent. to 37.7 per cent. in Imfeld's compiled 122 cases in the last nine years. The symptoms in the case reported had been noticed for three weeks before the perforation, pain in the epigastrium coming on five or six hours after eating, until finally the perforation occurred, with intense pain above and to the right of the umbilicus, and signs of acute peritonitis followed.

138. **Local Heat in Treatment of Peritonitis.** Iselin supplements rinsing out the peritoneum in case of suppurative inflammation by applying heat continuously to the abdomen. This stimulates the vital functioning of the intestines after the abdominal operation and also aids in combating the irritation of the peritoneum without pronounced inflammation. In the latter condition it promotes absorption while after operations the effect is more physical: the augmented evaporation in the hot-air box promotes the drainage of the peritoneum, rinsing it from within outward, as he expresses it.

Jahrbuch für Kinderheilkunde, Berlin

September, LXXIV, No. 3, pp. 237-366

142 Action of Infants' Saliva in Beginning Digestion. (Wirkung des Speichels im Anfangsstadium der Verdauung beim Säugling.) G. Ballaria.

143 Antitoxin Treatment of Diphtheria. (Zur Frage der Antitoxindosen bei Diphtherie.) S. J. Fedinsky.

144 *Scoliosis Begins in Infancy. (Beginn der Skoliose.) E. Kirsch.

144. **Incipient Scoliosis.**—Kirsch insists that the tendency to scoliosis is acquired before the school age and that it should be carefully sought at all times in young children and especially those known to have rachitis. It is most readily recognized when the child lies prone on his stomach, the arms spread at right angles, the head turned first to the right and then to the left. Looking along the spine from the top and bottom, the eye on the same line as the spine or on the same plane on either side, any tendency to curvature is generally easily recognized and roentoscopy will reveal which of the vertebræ are abnormal in shape. Kirsch found curvature by this means in 5 per cent. of 196 children between 6 months and 2 years old. He urges immediate correction with a correcting bed as soon as the incipient scoliosis is discovered. Years may be necessary before normal conditions are restored. One of his patients is now 9 years old and has slept in the correcting bed since she was 2 and has lost all trace of the scoliosis although it was quite pronounced when first detected.

Medizinische Klinik, Berlin

September 24, VII, No. 39, pp. 1483-1526

145 *Infant Feeding During First Two Weeks. (Zur physiologie der Milchsekretion und der Ernährung der Neugeborenen in den ersten Lebenstagen.) E. Opitz.

146 Therapeutic Action of Radium Emanations. (Klinische Beobachtungen über die physiologische und therapeutische Wirkung grosser Dosen von Radiumemanation.) C. v. Noorden and W. Falta.

147 Appendix Used to Close Defect in Male Urethra. (Ersatz eines Harnröhrendefekts durch den Wurmfortsatz.) E. Lexer.

148 Consequences for the Retina of Ligation of the Carotid Artery. (Folgen der Carotisunterbindung für das Centralgefäss-system der Retina.) A. Elschnig.

149 *Possibility of Influencing Tabetic Crises by Nerve Blocking. (Möglichkeit der Beeinflussung gastrischer Krisen durch Leitungsanästhesie.) F. König.

150 Operative Treatment of Exophthalmic G[illegible] (Umfrage über die chirurgische Behandlung [illegible]en Krankheit.) T. Kocher, P. Fried[illegible]hers.

151 The Electrocardiogram in Experimental Research. (Ueber das Elektrokardiogramm und die negative Schwankung des Froschherzens im Stadium schwacher Digitalisvergiftung.) E. Brandenburg and P. Hoffmann.

152 Treatment of Experimental Syphilis with Aromatic Mercury Compound. (Ueber die Behandlung der experimentellen Kaninchensyphilis mit aromatischen Quecksilbercarbonsäuren.) J. Blumenthal.

145. **Infant Physiology and Hygiene.** Opitz has had records kept of the temperature, stools, feedings and the weight in regard to 819 infants born at the Düsseldorf maternity. Of the 183 boys showing a tendency to jaundice, only 16.4 per cent. had regained their birth weight by the end of ten days, while 22.2 per cent. of the 230 free from icterus had regained it. The boys seemed to display this tendency to jaundice in much greater numbers than the girl babies and in a more intense form. His records show many interesting facts.

149. **Anesthetization of Spinal Roots for Tabetic Crises.**—König thinks that the benefits of rhizotomy may be attained in some cases of tabetic gastric crises without the necessity for an operation, merely by blocking the nerve roots involved. He urges others to try this method, and relates encouraging success with it in a single case. He used the Braun Leitungsanästhesie technic for deep paraneural injection of the anesthetic, injecting 100 c.c. of the fluid in the back, between the sixth and tenth ribs, at the emerging point of the nerves, forcing the fluid deep into the muscle on each side. He introduced the long needle close to the costovertebral articulation until it hit the rib; then it was drawn back a little, pointed upward to the upper margin of the rib and 5 c.c. of the fluid expelled at each point. The method differs from the epidural injection technic and it anesthetizes the nerve trunks for over six hours. It can be applied over and over again and if it proves possible thus to help the patients over the days of their tabetic crises in this harmless manner, much is certainly gained. It is possible, König adds, that this same paraneural technic might prove effectual for tabetic pains elsewhere, lancinating pains in the arm or leg. There is sometimes a local pain at the point of the injection, about two hours later, which he occasionally combats by subcutaneous injection of a small amount of some sedative. König's patient was a man of 44 who had severe gastric crises every month and finally every week with extreme exhaustion and loss of weight. The crises kept up for days at a time. The attack was arrested at once by deep injection of an anesthetic at the emerging points of the sixth to tenth dorsal nerve roots. 100 c.c. were injected at this time and three other attacks within the following week were likewise aborted, but not quite so successfully, possibly because not enough of the anesthetic fluid had been injected, the amounts ranging only from 65 to 80 c.c. instead of the 100 c.c. used the first time. The crises recurred after a month of peace, but the patient had left town.

Monatsschrift für Kinderheilkunde, Leipsic

X, No. 3, pp. 131-178

153 Specificity of the Cutaneous Tuberculin Reaction. (Spezifizität der Pirquetschen Reaktion.) E. Tezner.

154 Acute Nephritis in Children After Impetigo; Twenty-One Cases. (Akute Nephritis bei Kindern nach Impetiginösen Hauterkrankungen.) L. Kaumheimer.

155 Importance of Parathyroids for Tetany. (Bedeutung der path.-anat. Veränderungen der Glandulae parathyreoideae für die Pathogenese der infantilen Tetanie.) G. Jörgensen.

156 Adenoids and Hypertrophied Tonsils a Manifestation of the Exudative Diathesis. (Sind die adenoiden Wucherungen angeboren?) A. Czerny.

157 Causes of Infantile Summer Mortality. (Ursachen der Sommersäuglingssterblichkeit.) H. Kleinschmidt.

No. 4, pp. 179-238

158 Chemical Reaction of Infants' Saliva. (Chemische Reaktion des Säuglingsspeichels.) G. Ballaria.

159 Distribution of Water in Infants Fluctuating in Weight. (Wasserverteilung im Säuglingsorganismus bei akuten Gewichtschwankungen.) N. Berend and E. Tezner.

160 Bromin Dermatosis. (Das Bromoderma im Säuglingsalter.) F. Scherer.

No. 5, pp. 239-280

161 Casein Clumps in Infants' Stools. (Befund von Kuhmilchkasein in Säuglingsstühlen.) J. Bauer. (Kaseinklumpen im Kinderstühle im Zusammenhang mit Rohmilchernährung.) Monrad.

162 *Influence of Neuropathic Taint on Course of Febrile Diseases. (Bedeutung der neuro- und psychopathischen Konstitution für den Ablauf fieberhafter Erkrankungen.) R. Lederer.

163 Bactericidal Substances in Human and Cow's Milk. (Bakteriozidine in Frauen- und Kuhmilch.) H. Kleinschmidt.

164 The Spinal Cord in Tetany. (Rückenmarksuntersuchungen bei Tetanie.) J. Zappert.

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Münchener medizinische Wochenschrift

September 19, LVIII, No. 38, pp. 1993-2040

165 Anatomy of the Muscles in the Orbit. (Ueber die Anatomie der glatten Muskulatur der Orbita und der Lider, speziell die Membrana orbitalis musculosa.) W. Krauss.
166 *Operative Treatment of Diffuse Peritonitis. (Die operative Behandlung des diffusen, speziell puerperalen Peritonitis.) K. Baisch.
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126. **Isolated Rupture of the Trachea.**—The rupture occurred in a boy of 9 from a contusion. The trachea was exposed at once, a cannula introduced, and removed in four days, as recovery was prompt and uncomplicated. The rapid recovery in this case should encourage immediate operation for all isolated ruptures of the trachea, as serious complications are liable to develop otherwise at any moment.

127. See Abstracts 66 and 78 above.

132. **Perforated Duodenal Ulcer in Boy of 15.**—Imfeld reports a case of perforation of a duodenal ulcer in a boy of 15½, with operation at the seventeenth hour, after general peritonitis had developed. He attributes the boy's recovery in part, to the exact suture of the perforation, rinsing out of the abdomen and keeping the patient in a half-seated position. Imfeld comments on the better results with these operations in late years, the mortality having dropped since 1902 from 80 per cent. to 37.7 per cent. in Imfeld's compiled 122 cases in the last nine years. The symptoms in the case reported had been noticed for three weeks before the perforation, pain in the epigastrium coming on five or six hours after eating, until finally the perforation occurred, with intense pain above and to the right of the umbilicus, and signs of acute peritonitis followed.

138. **Local Heat in Treatment of Peritonitis.**—Iselin supplements rinsing out the peritoneum in case of suppurative inflammation by applying heat continuously to the abdomen. This stimulates the vital functioning of the intestines after the abdominal operation and also aids in combating the irritation of the peritoneum without pronounced inflammation. In the latter condition it promotes absorption while after operations the effect is more physical: the augmented evaporation in the hot-air box promotes the drainage of the peritoneum, rinsing it from within outward, as he expresses it.

Jahrbuch für Kinderheilkunde, Berlin

September, LXXIV, No. 3, pp 237-366

142 Action of Infant's Saliva in Beginning Digestion. (Wirkung des Speichels im Anfangsstadium der Verdauung beim Säugling.) G. Ballaria.
143 Antitoxin Treatment of Diphtheria. (Zur Frage der Antitoxindosen bei Diphtherie.) S. J. Fedinsky.
144 *Scoliosis Begins in Infancy. (Beginn der Skoliose.) E. Kirsch.

144. **Incipient Scoliosis.**—Kirsch insists that the tendency to scoliosis is acquired before the school age and that it should be carefully sought at all times in young children and especially those known to have rachitis. It is most readily recognized when the child lies prone on his stomach, the arms spread at right angles, the head turned first to the right and then to the left. Looking along the spine from the top and bottom, the eye on the same line as the spine or on the same plane on either side, any tendency to curvature is generally easily recognized and roentoscopy will reveal which of the vertebræ are abnormal in shape. Kirsch found curvature by this means in 5 per cent. of 196 children between 6 months and 2 years old. He urges immediate correction with a correcting bed as soon as the incipient scoliosis is discovered. Years may be necessary before normal conditions are restored. One of his patients is now 9 years old and has slept in the correcting bed since she was 2 and has lost all trace of the scoliosis although it was quite pronounced when first detected.

Medizinische Klinik, Berlin

September 24, VII, No. 39, pp. 1483-1526

145 *Infant Feeding During First Two Weeks. (Zur physiologie der Milchsekretion und der Ernährung der Neugeborenen in den ersten Lebenstagen.) E. Opitz.
146 Therapeutic Action of Radium Emanations. (Klinische Beobachtungen über die physiologische und therapeutische Wirkung grosser Dosen von Radiumemanation.) C. v. Noorden and W. Falta.
147 Appendix Used to Close Defect in Male Urethra. (Ersatz eines Harnröhrendefekts durch den Wurmfortsatz.) E. Lexer.
148 Consequences for the Retina of Ligation of the Carotid Artery. (Folgen der [illegible] das Centralgefässsystem der [illegible]
149 *Possibility of [illegible] by Nerve Blocking. [illegible] Beeinflussung gastrischer Krisen durch [illegible] F. König.
150 [illegible] of Exophthalmic Goiter. (Umfrage über die chirurgische Behandlung der Basedowschen Krankheit.) T. Kocher, P. Friedrich, der Quervain and others.
151 The Electrocardiogram in Experimental Research. (Ueber das Elektrokardiogram und die negative Schwankung des Froschherzens im Stadium schwacher Digitalisvergiftung.) K. Brandenburg and P. Hoffmann.
152 Tr[illegible] Syphilis with Aromatic Mercurial [illegible] Behandlung der experimentellen [illegible] aromatischen Quecksilberdicarbon-

145. **Infant Physiology and Hygiene.**—Opitz has had records kept of the temperature, stools, feedings and the weight in regard to 819 infants born at the Düsseldorf maternity. Of the 183 boys showing a tendency to jaundice, only 16.4 per cent. had regained their birth weight by the end of ten days, while 22.2 per cent. of the 230 free from icterus had regained it. The boys seemed to display this tendency to jaundice in much greater numbers than the girl babies and in a more intense form. His records show many interesting facts.

149. **Anesthetization of Spinal Roots for Tabetic Crises.**—König thinks that the benefits of rhizotomy may be attained in some cases of tabetic gastric crises without the necessity for an operation, merely by blocking the nerve roots involved. He urges others to try this method, and relates encouraging success with it in a single case. He used the Braun *Leitungsanästhesie* technic for deep paraneural injection of the anesthetic, injecting 100 c.c. of the fluid in the back, between the sixth and tenth ribs, at the emerging point of the nerves, forcing the fluid deep into the muscle on each side. He introduced the long needle close to the costovertebral articulation until it hit the rib; then it was drawn back a little, pointed upward to the upper margin of the rib and 5 c.c. of the fluid expelled at each point. The method differs from the epidural injection technic and it anesthetizes the nerve trunks for over six hours. It can be applied over and over again and if it proves possible thus to help the patients over the days of their tabetic crises in this harmless manner, much is certainly gained. It is possible, König adds, that this same paraneural technic might prove effectual for tabetic pains elsewhere, lancinating pains in the arm or leg. There is sometimes a local pain at the point of the injection, about two hours later, which he occasionally combats by subcutaneous injection of a small amount of some sedative. König's patient was a man of 44 who had severe gastric crises every month and finally every week with extreme exhaustion and loss of weight. The crises kept up for days at a time. The attack was arrested at once by deep injection of an anesthetic at the emerging points of the sixth to tenth dorsal nerve roots; 100 c.c. were injected at this time and three other attacks within the following week were likewise aborted, but not quite so successfully, possibly because not enough of the anesthetic fluid had been injected, the amounts ranging only from 65 to 80 c.c. instead of the 100 c.c. used the first time. The crises recurred after a month of peace, but the patient had left town.

Monatsschrift für Kinderheilkunde, Leipsic

X, No. 3, pp. 131-178

153 Specificity of the Cutaneous Tuberculin Reaction. (Spezifizität der Pirquetschen Reaktion.) E. Tezner.
154 Acute Nephritis in Children After Impetigo; Twenty-One Cases. (Akute Nephritis bei Kindern nach impetiginösen [illegible] aumheimer.
155 Im[illegible] for Tetany. (Bedeutung der [illegible] der Glandulae parathyreoidae [illegible] die Pathogenese der infantilen Tetanie.) G. Jürgensen.
156 Ac[illegible] 'onsils a Manifestation of the [illegible] die adenoiden Wucherungen [illegible]
157 Ca[illegible] ortality. (Ursachen der Som- [illegible] I. Kleinschmidt.

No. 4, pp. 179-238

158 [illegible] nts' Saliva. (Chemische Reaktion [illegible] G. Ballaria.
159 [illegible] Weight. [illegible] akuten [illegible]
160 [illegible] Bromoderma im Säuglingsalter.) F. Scherer.

No. 5, pp. 239-280

161 Casein Clumps in Infants' Stools. (Befund von Kuhmilchkasein in Säuglingsstühlen.) J. Bauer. (Kaseinklumpen im Kinderstühle im Zusammenhang mit Rohmilchernährung.) Mourad.
162 *Influence of Neuropathic Taint on Course of Febrile Diseases. (Bedeutung der neuro- und psychopathischen Konstitution für den Ablauf fieberhafter Erkrankungen.) R. Lederer.
163 Bactericidal Substances in Human and Cow's Milk. (Bakterizidine in Frauen- und Kuhmilch.) H. Kleinschmidt.
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174 Laparo-Thoracoscopy. (Kurze Uebersicht über meine Erfahrungen mit der Laparo-thorakoskopie.) H. C. Jacobaeus.
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Wiener klinische Wochenschrift, Vienna

September 21, XXIV, No. 38, pp. 1323-1350

178 *Induced Pneumothorax in Treatment of Pulmonary Tuberculosis. (Zur Kompressionsbehandlung der Lungentuberkulose mittels künstlichen Pneumothorax.) R. Persch.
179 *Hemolytic Precipitation Reaction with Cancer. (Eine hämolytische Ausfallsreaktion.) G. Kelling.
180 Eosinophil Cells in Stomach Content with Gastric Achylia. S. Moacanin.

178. **Induced Pneumothorax in Treatment of Pulmonary Tuberculosis.**—Persch discusses this subject from various points of view and reports four cases to show the great benefits liable to be derived in certain cases. The effect surpassed all anticipations in his first case, the patient a woman of 27 with various complications of pulmonary tuberculosis of several years' standing. The second case shows the simplicity and ease of the technic and the benefit even of a brief course of treatment. In the third the patient was moribund but the fatal termination was postponed for over three weeks by the immobilization of the lung. The fourth case is particularly instructive: this patient was a young woman with rapidly progressing tuberculosis, apparently restricted mostly to the left lung, the exacerbation following childbirth. The pneumothorax was induced about five months after the childbirth and clinical recovery followed, notwithstanding an exceptionally unfavorable environment.

179. **Hemolytic Reaction in Cancer.**—Kelling reports further experiences with 200 cases which confirm his recent assertions in regard to a hemolytic reaction in the diagnosis of a not yet palpable cancer. The test seems to show that in the serum with cancer there is something which gives a specific reaction with chicken blood-corpuscles. His research has shown that there is not only a hemolytic ferment for fowl blood-corpuscles but also a hemolytic immune body, an amboceptoid and a substance which deviates complement. He describes the technic for this test and for a further hemolytic reaction in which hemolysis is inhibited.

Zentralblatt für Gynäkologie, Leipsic

September 23, XXXV, No. 38, pp. 1329-1360

181 *Extradural Anesthesia. (Ueber extradurale Anästhesie.) F. Lieven.
182 *Menstruation After Curetting. (Ueber den Eintritt der Menstruation nach Abrasio.) F. Jaeger.
183 *Toxic Action of Blood Escaped Into Abdominal Cavity. (Ueber die Giftigkeit des in die freie Bauchhöhle ergossenen Blutes.) P. Bröse.
184 The Pulse After Rupture in Interstitial Pregnancy. (Ein seltenes Pulsphänomen bei innerer Blutung infolge von interstitieller Schwangerschaft und einiges über Herzkraft [illegible] icke.
185 [illegible] Cord. (Ueber Nabelschnurversorg- [illegible] W. Leube.

181. **Extradural Anesthesia.**—Lieven reports his experiences with an anesthetic injected according to Cathelin's epidural technic in six obstetric and fifty operative gynecologic cases. In the latter he used a very complicated technic, throwing the patients into a twilight sleep before making the extradural injection. In the obstetric cases the extradural technic has the disadvantage that anesthesia does not come on for about twenty minutes and that it puts an end to the abdominal straining during delivery. The introduction of the anesthetic is not always easy, and the anesthesia induced is not of long enough duration for protracted operations.

182. **Return of Menstruation After Curetting.**—Jaeger states that in twenty-five cases in which the curetting was done for endometritis and in twenty-five for the results of abortion, menstruation did not seem to be affected. He accepts this as evidence that menstruation does not depend on the uterine mucosa but on the functioning of the ovaries.

183. **Toxic Action of Blood in the Abdominal Cavity.**—Bröse reports three cases which show the possibility of an extremely toxic action from blood escaping into the abdominal cavity. Two of the women died. The chief symptoms were the paralysis of the entire intestines coming on the second or third day after rupture of a tubal pregnancy or operation for pyosalpinx or fibromyomas accompanied by much hemorrhage. The paralysis of the intestines was accompanied by high temperature and accelerated pulse, somnolency and agitation. According to his experience fluid blood seems to have a more toxic action than the coagulated.

Gazzetta degli Ospedali e delle Cliniche, Milan

September 14, XXXII, No. 111, pp. 1173-1178

186 Immunizing Property of Extracts of Human Tuberculous Lungs. (Sulle proprieta immunizzanti degli estratti di polmone umano tubercolosa.) G. Romanelli and F. Morelli.

September 17, No. 112, pp. 1179-1194

187 Physical Syndrome with Lesions of Right Brain. (Sindromi fisiche da lesioni dell emisfero destro in destrimani.) T. Silvestri.

Policlinico, Rome

September 17, XVIII, No. 38, pp. 1193-1224

188 Earth Worms as Conveyors of Cholera. (I vermi come veicoli d'infezione colerica.) B. Gosio.
189 Omentopexy for Cirrhosis of the Liver. (L'operazione del Talma nella cura delle cirrosi epatiche.) A. Monetti.

Riforma Medica, Naples

September 18, XXVII, No. 38, pp. 1037-1064

190 Cultivation of Cholera Vibrio. (Nuove ricerche culturali su. vibrione colerico.) S. Fichera.
191 Difficult Diagnosis of Traumatic Lesions. (A proposito d alcune lesioni violente traumatiche, di diagnosi dubbia.) G. Monzardo.

Hospitalstidende, Copenhagen

September 6, LIV, No. 36, pp. 1001-1032

192 Aggressin Action in Broth Cultures. (Aggressinvirkning i Bouillonkulturer.) I. P. Chrom.

Nordiskt Medicinskt Arkiv, Stockholm

XLIII, Internal Medicine, No. 4. Last indexed April 29, p. 1306

193 *Chemistry of Nucleins. (Nobelvortrag.) A. Kossel.
194 *Experimental and Clinical Research on Diabetes. (Zur Diabeteslehre.) E. Landergren.

193. **Kossel's Research on Chemistry of Nucleins.**—This article is Kossel's summary of his biochemical research for which he was awarded the Nobel prize last winter. His work was reviewed editorially in THE JOURNAL, March 18, 1911, p. 817.

194. **Diabetes.**—This monograph on diabetes, based on extensive experimental and clinical research and experience, was awarded the Regnell prize in 1906.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

PEDIATRICS. Edited by Isaac A. Abt, M.D., Professor of Pediatrics, Northwestern Medical School. With the Collaboration of May Michael, M.D. ORTHOPEDIC SURGERY. Edited by John Ridlon, A.M., M.D., Professor of Orthopedic Surgery, Rush Medical College. With the Collaboration of Charles A. Parker, M.D. Volume VII. The Practical Medicine Series. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Series 1911. Cloth. Price, $1.25. Pp. 237. Chicago: The Year Book Publishers.

THE PARASITIC AMEBAS OF MAN. By Charles F. Craig, M.D., Captain, Medical Corps United States Army. From the Bacteriologic Laboratory of the Army Medical School, Washington, D. C., and the Rockefeller Institute for Medical Research, New York. Published with the Authority of the Surgeon-General of the United States Army. Cloth. Price, $2.50. Pp. 253. Philadelphia: J. B. Lippincott Co., 1911.

MANUAL OF PATHOLOGY. Including Bacteriology, the Technic of Post-Mortems and Methods of Pathologic Research. By W. M. L. Coplin, M.D., Professor of Pathology, Jefferson Medical College, Philadelphia. Fifth Edition. Cloth. Price, $4.50 net. Pp. 1139, with 612 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

ANNUAL REPORT OF THE INDIAN BRANCH OF THE ST. JOHN AMBULANCE ASSOCIATION. For the Year Ending Sept. 30, 1910. Published by the Authority of His Excellency the Viceroy, President of the Indian Branch. Paper. Pp. 139. Calcutta: Thacker, Spink & Co., 1911.

REPORT OF THE VETERINARY DIRECTOR GENERAL AND LIVE STOCK COMMISSIONER J. G. RUTHERFORD. For the Year Ending March 31, 1909. Printed by Order of Parliament. Department of Agriculture, Ottawa, Canada. Paper. Pp. 212, with illustrations.

HEALTH FOR YOUNG AND OLD. Its Principles and Practice. By A. T. Schofield, M.D., M.R.C.S., etc. Author of "Hygiene for Schools." Cloth. Price, $1.50. Pp. 300. New York: G. P. Putnam's Sons, 1911.

SECOND ANNUAL REPORT OF THE CHILDREN'S HOSPITAL AND TRAINING SCHOOL FOR NURSES, 2221 Downing Street, Denver, Colo. For the Year Ending April 1, 1911. Paper. Pp. 55, with illustrations.

FOOTPRINTS MADE IN THE DARK OR FOREWORDS OF THE PRESENT STATUS OF BACTERIAL ETIOLOGY. By A. G. Field, M.D., L.L.B. Des Moines, Iowa, 1863-1910. Cloth. Pp. 31, with illustrations.

The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees

Vol. LVII, No. 19 CHICAGO, ILLINOIS November 4, 1911

STREPTOTHRICOSIS (ACTINOMYCOSIS) OF THE LUNGS*

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In 1908 I reported[1] seven cases of what I believed to be pulmonary actinomycosis (streptothricosis) discovered in one year. Since then several additional cases have been encountered. They have all been infested by a streptothrix which I have supposed to be the *Streptothrix actinomyces.* Some of these patients have also had tuberculosis, death resulting in each case; some have had simple streptothricosis; several of these have recovered.

Of the former series three patients had also pulmonary tuberculosis and all were free from infection in other parts of the body. In one case (No. 2, N., of the mixed disease) the patient, who had a marked lesion of the left lung, had died April, 1908, after a year's struggle and eight months after coming under observation.

In another mixed case (No. 3, G.) the patient survived till March, 1909. In this case there was little involvement of the lungs, the apices only being invaded, especially the right. The larynx was profoundly involved, with much swelling, swallowing being difficult and painful, and aphonia being absolute for many months before death.

Case 1.—The patient, A., was reported probably cured, had remained so to a recent date, the recovery apparently being permanent. This was the most marked and characteristic case of the series, almost the whole of the left lung being more or less diseased, the patient having expectorated large quantities of bloody malodorous muco-pus for many weeks, often a pint or more in twenty-four hours, and recovering with a mass of consolidated tissue in the left upper third, with reduced vesicular murmur and bronchial breathing over the whole lung.

Case 4.—The patient absconded and has not been rediscovered.

Case 5.—The patient had mixed disease, went east and his fate is unknown.

Case 6.—M., the patient, seemed to pass into recovery with a rather marked consolidation in the bottom of the left lung posteriorly, and a lesser one in the right apex. Marked fibrosis occurred, especially in the left side, which greatly reduced the motion of the chest-walls—in fact, nearly abolished it; the breathing was mostly abdominal, and even moderate exertion caused extreme dyspnea. Yet the man looked well and, barring the short-windedness, felt so. A few actinomycetes were found in his expectoration after the first report, but none for several months before his death—indeed, for many weeks there had been no expectoration of pus. The man went to Colorado in 1909, was seized with some complication and died in two or three days.

Case 7.—W., the patient, had a marked lesion in the lower left chest posteriorly, with free expectoration of thick bloody sputum (his case having been early taken for one of some extraordinary pneumonia—as indeed it was), completely recovered, with evidence of moderate thickening of tissue (so-called consolidation) in the region involved. His health is apparently perfect.

Case 8.—Of the second series of cases, the first was a mixed one, the patient (B.) being a bachelor, aged 25, a lawyer. He came under observation late in July, 1908, and had then been sick for fifteen months. At first his expectoration was bloody; for a year it had not been over a half ounce in twenty-four hours, and blood-free. The lesion was a diffused and moderate one throughout the left lung. It gradually grew worse, with more and more signs of consolidation; dulness, reduced motion, bronchial breathing, râles, reduced vesicular murmur, especially at the bottom of the lower lobe, and finally a cavity. He failed and died in April, 1910. Both tubercle bacilli and actinomycetes were found in the expectoration and were distinct and typical.

Case 9.—R., the patient, is a vigorous-looking bachelor, a street-car conductor of 28 years. He was first seen in December, 1908. He felt poorly and coughed for several months. Expectoration had been moderate in amount and occasionally bloody. A few actinomycetes were found but no tubercle bacilli. There was almost an entire absence of physical signs, barely slight bronchial breathing in the right apex. The germs have increased in the sputa. There has been little or no fever, and he keeps his weight and general condition; the daily expectoration is about three ounces, and it is occasionally bloody, and fetid. Early in 1910 his nose apex swelled, got red and finally broke down in ulceration of the skin in numerous small points. The streptothrix was found in the discharges from the ulcers. The condition recovered under tincture of iodin locally and iodin internally. Later a similar ulceration occurred on one of his legs above the ankle and healed.

Case 10.—H., the patient, of Wyoming, came under observation March 22, 1909. He is a sheep raiser, 52 years of age, married. The previous autumn he had what was pronounced left pneumonia and was in bed four or five days. He was expectorating 8 ounces of pinkish muco-pus every twenty-four hours; had no fever, but was very short-winded; he had lost 15 pounds in weight. The expectoration teemed with actinomycetes. He had manifestly extensive effusion in the left pleural cavity which was aspirated March 25 of the amount of 20 ounces of pinkish sero-pus containing what appeared to be débris of actinomycetes. March 31, the left side remaining still flat, a drainage-tube was inserted which promptly discharged 30 ounces of fluid. There was no lesion of the right lung, so the expectoration manifestly came from the upper part of the left lung and may in part have come through a perforation from the pleural cavity, since after the drainage the expectoration was reduced markedly. The patient soon returned home and his doctor reported for a time a moderate improvement. He returned to Los Angeles in the winter of 1909-10. Actinomycetes in fragments were still found in the discharges. An operation for removal of sections of ribs was done after his return home in the spring of 1910.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Tr. Sect. Hyg. San. Sc., A. M. A., 1908, p. 242.

Dr. Robert Kellg Library
[illegible] Medical College

CASE 11.—C., the patient, was in the practice of my associate, Dr. George L. Cole, with a record as follows: He had come under observation December 3, 1908. He was a lumberman, 62 years of age, had been well since 1870 until eight or ten months before; then a cough began and there was pain in the left chest. He was put to bed by his previous physician during January and February, 1908, having been aspirated four times up to April of that year. About one quart of fluid was procured each time.

His pulse was weak and cough bad (Dec. 3, 1908), although expectoration was trifling. Dr. Cole found complete dulness over the left chest, the heart being pushed to the right; the apex-beat was distinctly to the right of the sternum. The patient was aspirated of between 3 and 4 quarts of bloody fluid; but the little expectoration that was procured contained actinomycetes. Jan. 29, 1909, the left side was still profoundly dull throughout. There was tactile fremitus down to the fifth rib, also voice sounds. The heart apex was under the sternum. This was substantially the condition April 23, 1909. There was no real vesicular murmur even at the apex. There was no fever; pulse and respiration were rapid. The weight had decreased 24 pounds. Yet, the patient was about, attending to business daily and looked like a man only slightly under normal vigor. He grew gradually worse and died Nov. 4, 1909. The left lung was found compressed into the size of a large human fist. The right lung had become extensively invaded, at the apex, by what the microscope showed to be carcinoma.

CASE 12.—C., the patient, is a single woman aged 40, who has had tuberculosis and has been coughing more or less for a number of years. She has also had a great deal of nervous debility. Her previous physicians found tubercle bacilli on several occasions.

On my examination made in 1908 her right lung had slightly reduced motion, marked reduction in vesicular murmur, trifling dulness and sharp bronchial breathing at the top, reduced fremitus over the middle and lower portions, trifling bronchial breathing at the top of the left lung. The patient was not expectorating much and it was impossible to procure a good sputum specimen. Her temperature was 1 degree above normal. Hers was regarded as an arrested case of tuberculosis.

After an absence of a year she returned for another examination. She had recently been having fever—to 102 F.—with wheezing, cough and poor appetite. There was now marked consolidation of the lower part of the right lung posteriorly and about the same condition as before in the upper portion. No tubercle bacilli were present in the sputum, but numerous actinomycetes.

The patient had not lost much in weight and her general functions were fairly normal. She had been in very fair health the previous year, except for some irregularities in menstruation. She soon ceased to have fever. The thickening at the base of the right lung disappeared and general improvement was noticeable. Occasionally she had a recurrence of slight fever, with numerous râles throughout the right lung. It was evident that the infection was in the right apex. The actinomycetes mostly disappeared after a few months, and her general health was greatly improved, when she suddenly developed a rather marked case of exophthalmic goiter. This improved after a few months. She is now in fair health, but recently a few actinomycetes were found.

CASE 13.—C., a man of 40, widower, an office man from Philadelphia, came under observation May, 1909. His general health was good; his appearance was that of a well man; his general functions as to digestion and general vigor were normal. He had no fever and probably had had none. He had been hoarse more or less for six months and had had a cough with a small amount of expectoration of a thin purulent character, with occasional streaks of blood. The hoarseness was worse in the mornings, better evenings. There had been no difficulty or pain in swallowing. He was only slightly short-winded.

His eastern physicians had repeatedly searched his expectoration for tubercle bacilli and had failed to find any, and one of them had searched for the germs supposed to belong to syphilis, with negative results. He had received free doses of potassium iodid from the last-mentioned physician, who regarded the case as syphilitic (although the patient denied the possibility of it) and reported improvement for a time under the treatment. The patient confirmed this last statement.

Physical examination of the chest (May, 1909) revealed absence of dulness and râles; the slightest possible reduction of vesicular murmur over the upper left chest, and a sort of loud bronchial breathing over both apices, of a character suggesting tracheal narrowing. The larynx was extensively diseased; all the tissues were swollen; the epiglottis was swollen, ulcerous, and cleft rather deeply in its center longitudinally; the vocal cords were swollen and red, and the false cords and arytenoid regions were large and red but apparently not ulcerous. It was impossible to get a good view of the vocal cords and the lining of the trachea. There were two white ulcerous patches on the front of the left half of the soft palate. The sputum contained a few streptococci and many actinomycetes of a typical appearance but no tubercle bacilli.

The patient was advised to have his throat sprayed with an 8 grain water solution of sulphate of copper, and to take ⅓ grain of the copper drug and 6 grains of sajodin, three times a day. He soon disappeared and was not seen again. He died in February, 1910.

CASE 14.—T., a married woman, aged 50, was first seen in February, 1909. She had a laparotomy some months previously for gall-bladder symptoms, followed by some amelioration. She had all the physical signs of a moderate infiltration of what appeared to be tuberculosis of the right apex anteriorly. She had slight fever, moderate expectoration and general debility. No tubercle bacilli were found after repeated examinations, and no actinomycetes until June 10, when a single granule was discovered. Afterward, numerous typical ones were found, some of them in clumps. Later, bloody expectoration in small quantity appeared for a short time with extension of dulness and reduced vesicular murmur in the back of the right apex down to the upper part of the central third of the lung. Fever increased with this extension of the disease. The fever subsided simultaneously with the discharge of larger masses of the peculiar germs. This cycle was repeated several times during the year; extension of the disease and fever, the latter subsiding on the discharge of a large mass of bloody pus with terrible odor. The patient died in 1910. The postmortem findings are reported below. This case occurred in the house of one of the cured patients reported above.

CASE 15.—D., a widow, 65 years of age, had had a moderate cough for a year or more, with a little daily yellow expectoration. In 1908 I found slight physical signs of thickening in the right lung apex. The general health was good for a person of her age. She was a large woman and had lost little weight; she had been substantially without fever. Early in October, 1909, she had had a slight pulmonary hemorrhage and continued to expectorate blood-flecked and odorless sputa for several weeks. No other symptoms occurred. Repeated examinations of her sputa failed to find either tubercle bacilli or actinomycetes, until after this hemorrhage. Then the ray specimens were found in small numbers, but no tubercle bacilli. Early in December, 1909, she was seized with a flooding pulmonary hemorrhage and died in a few minutes. No necropsy was made.

CASE 16.—F., an unmarried man aged 26, a clerk in a chemical and apparatus supply house in Los Angeles for some years, had had cough for several months with a little odorless expectoration, and has lost a few pounds in weight. He has felt a sense of general debility, but has kept at work. There has been less than 1 degree elevation of temperature in the afternoons. Slight dulness, an occasional râle and moderate bronchial breathing have been found at the right apex. Characteristic actinomycetes were found but no tubercle bacilli.

CASE 17.—The patient, Br., in the practice of Dr. Robert Moody of the University of California, at Berkeley, was a single woman, a teacher, 40 years old, with extreme lateral curvature of the spine. Her father had had asthma fifteen years and died of heart disease; one brother died of tuberculosis. The patient had pleurisy in 1903, and the next year, tuberculosis of the right lung. Dr. Moody first saw her in January, 1908. There was a cavity in the right lung; tubercle bacilli and actinomycetes were found in the sputum. Tuberculin was given (1/500 to 1/1000 mg. weekly) till May, 1910, when the tubercle germs disappeared. Streptothrix germs have persisted and the patient was still living a few weeks ago.

The treatment of these cases has been tonic and regulation of functions with iodin in some form and frequently sulphate of copper. The latter was given in doses of 1/3 gr. three times a day when the stomach could bear it, and the iodin in the form of iodid of potassium, or of sodium, and sajodin.

The cases here reported emphasize the fact that pulmonary streptothricosis is not so very uncommon; that most physicians can discover examples if they will only look for them, and that it must be true that a large proportion of the cases of so-called non-tuberculous phthisis are instances of pulmonary streptothricosis of some variety. The number of cases of this sort is considerable and most general practitioners have encountered them and have been puzzled by them.

This whole series proves that it is futile to try to connect the cases with the disease in cattle or in other people. Patient 1 was a farmer, but denied ever having seen a case of lumpy jaw. Patient 3 was a lawyer who took milk from a dairy found to contain some cows afflicted with tuberculosis and fewer cows afflicted with lumpy jaw. The other cases were free of any suggestion as to such an origin of the disease. Case 14 is the only one that appears to have been connected with any other case.

The patients mostly came from widely separated parts of the country and had no connection with each other. Nor was a single case of the lung affection secondary to a lesion elsewhere in the body, and in no instance has the disease appeared secondarily in other organs than the lungs and pleura, save Case 9, in which the skin became involved and recovered.

Dr. Edith Claypole, who has done most of the laboratory work on the specimens, has by means of various devices made a large number of cultures from several cases, and with notable results that are set forth in her notes accompanying this paper. By Gram-stain and otherwise she has been able to demonstrate in the sputum the mycelial threads and rod-segments many days before they appear in masses large enough to give the peculiar radiating appearance so characteristic of the *Streptothrix actinomyces*—indeed, in the early stage she feels able to predict that the larger masses will be found later. This is, I think, a discovery of distinct value. She suggests that any specimen of sputum containing faint blue-staining bacilli in notable numbers, which persistently refuse to grow in ordinary media and are Gram-positive, should be critically searched for the streptothrix with almost a certainty of finding it.

The appearance of the germs, both to the naked eye and magnified, has tallied with the classic description of *Streptothrix actinomyces*, except that there have been no true "clubs," and it has been substantially the same in all the patients. Several authors who have discussed this phase of the subject, notably McFarland, regard the clubbing as merely incidental and unessential in the growth of the germs. This is the correct view, and the clubs are most unusual in the human pulmonary infection,[2] for the reason that being probably a sort of byproduct and depending on the character of the host-tissue, the lungs do not favor their growth. Neither do they grow in any of our culture media. The essential elements are the mycelial threads and their fragmentations, rods and granules, and they tend to gather in masses with certain characteristics that have given the name "actinomyces" to some of them.

The presence in most of the cases of bloody expectoration at some period of the disease, and especially the frequent bad odor, indicate true *Streptothrix actinomyces*. But, of course, some other variety of streptothrix might possibly produce all the phenomena noted in these cases, and they may represent more than one variety. That the germs are an incident and not an etiologic factor in the cases described is quite impossible. The causative relation to the disease is as certain for these germs (whatever their classification) as is that of tubercle bacilli for pulmonary tuberculosis. There may, indeed, be a close biologic relation between the streptothrix and the tubercle germs, but if such is the case it does not appear to be so clinically.

Dr. Claypole has written the following note and discussion on the specimens, and on the pathology of the disease:

In the majority of cases the sputum is characteristic and of two types; (1) glairy, mucilaginous, often quite watery; (2) purulent, more or less bloody, more or less—sometimes intensely—fetid. Both types may be found sparingly or in abundance. The second type may only have a characteristic, homogenous, pinkish color, or be deeply blood-stained; it generally has a distinctly bad odor. This odor may belong in some degree to both kinds of sputum, but especially to the purulent form. Of eight cases, not complicated with tuberculosis, three were in Class 1 and five in Class 2.

The small granules, usually the size of a very small pinhead, can be picked out with a needle and put on a slide for examination. They are quite tough and can be washed free of debris by putting them into a small dish of water and squirting them vigorously up and down a pipette. Careful examination of many specimens before and after this treatment shows them to be absolutely unhurt by it; only the pus and epithelial cells clinging to the outside are removed.

Under a low magnification (Reichert objective 1 and ocular 1) the yellow color is marked; to the naked eye the fungus is greyish white. The edge is always darker, even shading into brown; toward the center it grows lighter. From this light, almost homogeneous center, the characteristic radiations arise. Higher magnification (Reichert objective 7 and ocular 1) shows the center to be a mass of pale, radiating threads, the mycelium, and at the edges a mass of threads and cocci. Both mycelium and cocci may be stained with methyl blue, the former frequently being banded light and dark in segments, sometimes granular throughout.

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[2] The following writers are on record as holding that the clubs are non-essential:
Bevan, A. D.: Ann. Surg., 1905, xli, 641.
Hitchins, P. S.: Brit. Med. Jour., 1905, ii, 1168.
Hodenpyl: Med. Rec., 1890, xxxviii, 653.
Levy and Klemperer: Elements of Clinical Bacteriology, 1900, p. 356.
Litton and Levy: Deutsch. med. Wchnschr., 1906, xxxii, 1772.
Lord, F. T.: THE JOURNAL A. M. A., Oct. 8, 1910, p. 1261.
Ruhrah, J.: Ann. Surg., 1899, xxx, No. 4, p. 417; No. 5, p. 605; No. 6, p. 722.
Stokes, W. R.: Am. Jour. Med. Sc., 1904, cxxviii, 861.
Werthen and Olney: Am. Jour. Med. Sc., 1904, cxxviii, 637.
Wood and Eshner: Med. Rec., 1910, lxxvii, 947.
Wynn, W. H.: Brit. Med. Jour., 1908, i, 554.
The following assert that neither granules nor clubs are essential:
Ashton and Norris: THE JOURNAL A. M. A., Sept. 9, 1905, p. 784.
Beracz, R. von: Ann. Surg., 1903, xxxvii, 336.
Caglieri, G. E.: THE JOURNAL A. M. A., Nov. 12, 1898, p. 1173.
Chiari: Ztschr. f. Heilk., 1900, ii.
Hamm: Deutsch. med. Wchnschr., 1906, xxxii, 941.
Letten and Levy: Ztschr. f. Heilk., 1900, ii.
Musser and Gwyn: Tr. Assn. Am. Physicians, 1901, xvi, 208.
Scheele and Petrusky: Deutsch. med. Wchnschr., 1897, xxiii.
Wagner, C.: Surg., Gynec. and Obst., 1910, x, 148.

Culturally, the actinomycetes do not grow usually on plain agar, glycerin and glucose agar, or potato (they do not seem to be more active on one than on the other of these media); if they are present, there are small whitish masses on the surface, which on removal give the characteristic appearance under the microscope. In bouillon the germs grow better.

In Case 14, T., long bacilli are recorded as found in the sputum at first and later the characteristic granules of streptothrix. In all probability these bacilli, so-called, are fragmented mycelium; ultimately the fungus appeared in masses of tangled mycelia rather than in granules, but always some material of this sort was found. In about eight months a cavity appeared at the apex and the lung involvement became more extensive, especially posteriorly.

When death occurred, the emaciation was extreme. The left lung and pericardium were normal; the right was contracted and anteriorly over the third and fourth rib cartilages, the parietal and visceral pleuræ were densely adherent and the bone involvement marked, explaining the neuralgia and substernal pains complained of. When the adhesions were separated the lower part of the pleural cavity was found to contain 8 ounces of most fetid pus. For a few days before death the patient had coughed up quantities of this fetid fluid, at times almost suffocating in it, showing a bronchial communication with the cavity.

The upper lobe of the lung was mottled black and white, was almost solid in consistence, no porous structure remaining: it contained several small cavities from the size of a pea to that of a walnut. The middle lobe was dark red, spongy, with whitish spots, and anteriorly a white, honey-combed area that was adherent to the sternum for a space of some 3 inches. This was evidently the most recent involvement.

The lower lobe was contracted, reddish and somewhat porous. The diaphragmatic pleural surface was much thickened and resembled a pyogenic membrane. The same mycelial masses were found in this fetid pus as had been observed in the sputum. When the lung was cut into, the same granules and mycelial masses were found in the larger bronchial tubes, together with the debris of pus and epithelial cells. There was no evidence of any lymphatic involvement in any of the bronchial or other glands.

The microscopic examination of the tissues demonstrated the growth of the fungus from the earliest stage to the mycelial masses. Sections were made from the consolidated apex, the middle lobe near the adherent portion, the intercostal tissue, the reddish lung near the base and a piece of the thickened inferior pleural surface of the lower lobe. Some sections were stained with hematoxylin and eosin, and others by the Gram-Weigert method.

As shown in the hematoxylin-eosin mounts, the upper lobe consisted of a large amount of fibrous material, much new granulomatous tissues but no alveoli. The bronchial tubes of varying sizes remained more or less full of sputum, and scattered among the granulomatous tissues were giant cells, not like those accompanying tuberculosis, but small, with only from four to eight nuclei. Never was there any sign of caseation; everything was dense and compact. In the other lobes there was some vesicular structure, but the alveoli were full of desquamated epithelial and pus cells.

Throughout the lung patches of new-formed granulomatous tissue, with its accompanying small giant cells, were of frequent occurrence, showing tissue response to some form of irritation. In places a fine fibrillar structure was plainly seen, often apparently in circular spaces, suggesting blood-vessels. This was of especial interest, as will be seen from the revelations made by the application of the Gram-Weigert method to the same set of sections.

In a recent series of lectures by Foulerton in the London *Lancet* the whole subject of streptothricosis is most ably discussed, and the complex [illegible] demonstrated. The reproduction [illegible] of rod-segments, very similar in appearance and morphologically equivalent to bacilli, as well as by spores, is an especially illuminating phase of the problem and one which gives an entirely new point of view from which to investigate all the tissues in this disease. The Gram stain shows these small particles in the newly infected areas, when other methods fail to do so.

In this case the point of most recent invasion is the area of the middle lobe adherent to the chest wall. This is the point at which the study logically begins. The tissue is more nearly normal than elsewhere, some exudation into the alveoli and some granulomatous cells are present. In one of the largest bronchioles full of pus cells and other elements of sputum, the most beautiful picture of the method of invasion is found. Rod-segments, staining blackish with Gram stain, literally swarm in one place among the pus cells. High columnar epithelial cells surround this mass of sputum. At one point their integrity is broken, and in among the cells are masses of these black rod-segments en route to the deeper tissues. Again, they are found in the intercellular connective tissue and even to the fibrous tissue surrounding the small blood-vessels. This is of especial interest in view of the fact that in older areas of infection these open spaces with walls apparently like those of vessels are found filled with mycelial threads staining the characteristic blue. The good condition, relatively speaking, of all the tissues entirely negatives the idea that this is a process of discharge into the bronchiole, rather than an invasion of it. Of course, it is a condition of self-infection but it shows how the disease extends, and also accounts for the rather slow manner of extension, that of contiguity, not by infection through the blood-stream.

The development of these rod-segments into the typical mycelial masses is the next point for demonstration. The earliest stage of the growth of the mycelium from the rod-segment could not be determined, the reason for this being indicated in the cultural experiments described later. In the sections of the reddish porous part of the middle lobe, rod-segments are also found in the interalveolar tissue, also small granules of the fungus. There are many granulomatous patches and in them are found areas of interlaced fibrils staining more or less deeply with Gram stain, also masses of fibrillar substance likewise staining blue. Small fragments of mycelium can be found in the exudate in the larger bronchioles over this area also. There occur in the larger bronchial tubes some sections of the tufts of the fungus: these stain deep blue and are very distinct and characteristic. Small scattered fragments of mycelium are found in many parts of the sections.

In the upper lobe no air-spaces remain, fibrous and granulomatous tissue alone are found with some blood-vessels and a few bronchial tubes; in these can be seen fragments of mycelium. The response to the extreme irritation of the parasite is the formation of new tissue, and the air-cells are destroyed. Apparently, the excessive new formation of tissue is unfavorable to the fungoid growth; it disappears. The parasite departs but the function of the lung is destroyed. Further invasion of new, softer tissues presumably occurs with similar results. This total lung destruction probably accounts for the marked short-windedness of most of the patients afflicted with this disease, indicated in physical signs by the so-called extreme fibrosis.

At what point the mycelium begins to form rod-segments is at present undetermined. They may form only when conditions become unfavorable for growth in any special region, or they may be formed in small numbers at all times. The former would be the more probable, however, in view of the larger number found at the place of invasion in the most recently infected point.

It is possible that the masses of mycelium, usually found in the sputum, are not capable of entering new tissues, in fact cannot cause infection; that is, that they must become rod-segments before really being dangerous to the system.

The peculiar manner in which the rod-segments surround the small blood-vessels is worthy of further study. Finding the interlaced mycelial threads apparently in blood-vessels was at first very puzzling, and only after the earlier stage of the process[3] was discovered did it seem possible that the fungus really was in the vessels.

SUMMARY

1. A large amount of granulomatous tissue takes the place of all air-sacs and small bronchioles in the final stage.
2. Marked absence of caseation and very little breaking down save in a pleural cavity.

The in many ways unexpected results obtained from the study of the tissues in this one case of primary streptothricosis of the lung make it most desirable that more should be critically examined to determine if the course of the pathologic changes is always the same or if noteworthy variation occurs.

CULTURAL AND SPUTUM EXPERIMENTS

To investigate more fully the character of the infectious agent responsible for the disease in these cases, a series of cultural experiments were made from Cases 9 and 17.

The contaminations unavoidable in sputum and the very poor growth of the organism on solid media made it impossible to obtain pure cultures without a much longer series of experiments than time allowed. The ordinary streak and plate methods are not suitable, since the secondary forms, growing freely, cover the surface before the streptothrix is started. Consequently bouillon was chosen and contaminating forms, chiefly staphylococci, disregarded. The small granules found in the sputum, consisting of tufts of mycelium, were carefully picked out either with a needle or pipette, washed thoroughly in repeated changes of sterile water and then either crushed or dropped whole into the tubes which were incubated at 37.5 C. and examined daily in hanging drops and smears, the latter stained with methylenblue by the Gram method.

In the hanging drop the growth of the organism is beautifully shown; in the earliest stage (twelve hours) it apparently consists of a few spores, and from them two or three delicate threads of mycelium; both stained and hanging drop mounts show this clearly. During the second, third and fourth days the small organism grows rapidly, becoming quite a mass of threads, radiating with more or less regularity from the center of growth. By the sixth day small but distinct granules can be seen in the bouillon; these are large enough to pick up and crush on slides to make smears. On agar the growth is but feeble, never in isolated masses, owing to the presence of more rapidly growing organisms, and not recognizable to the naked eye as separate masses. In hanging drops and smears it shows fragmented mycelium and rod-segments in abundance. The little tufts in the bouillon are tangled mycelium beset with many coccus-like spores, strongly Gram-positive.

In the early stages, up to the fourth day, the mycelium proved itself to be very resistant to stains of all kinds, only a few threads becoming colored even after prolonged treatment and none if merely the usual time was allowed. Parallel observations on the hanging drops showed the fungus to be present in abundance. Finally, by the time the small tufts became visible to the naked eye, on the fourth day, the usual staining properties began to appear and by the sixth day successful operations resulted from the standard method. At no time, however, was the organism acid-fast.

The application of the Gram stain to this organism discloses many points in the structure not shown by the ordinary stains. There is a great variation in the diameter of the different threads and as marked a difference in their staining qualities. Some are fine and hair-like, others coarse and thick. Many of the heavy ones stain a deep continuous blue, others are finely granular throughout, some segmented at regular intervals, like long strings of large bacilli, again like strings of streptococci, or in separate organisms, like bacilli; the rod-segments among those that take the Gram stain in whole or part are many that show only the counter stain and even that faintly; some are large, some small; the very young and the old degenerate threads. After becoming familiar with the organism it is easy to trace the same irregularity in staining in the tissues, though here the fragmentation is not a marked phase, save where the formation of rod-segments has occurred. The resistance to stain of the young mycelium also serves to explain the notable absence in the tissues of very young forms growing from the rod-segments. It is a well-known fact that microorganisms in tissues are more difficult to stain than in pus, sputum or cultures. It may be the difficulty in hardening the tissues rapidly enough to fix the organisms. In the case under consideration it would seem to be some qualities in the organisms themselves. Only as they grow old they lose the power and again fail to color typically. The exact conditions under which the rod-segments form are as yet not determined. It is evident that by no means does all mycelium fragment into them. Much of it dies, as evidenced by fine granulation and final lack of stain.

SUMMARY

1. The fungus is found to be markedly pleomorphic, occurring in (a) the classical grain or tuft, in culture and tissue, (b) fragmentations, bacillary, or even smaller, like granules, in tissues and discharges and some culture (solid) media. Very variable in size of mycelium.
2. The very young mycelium is resistant to all stains; the old threads likewise fail to stain.
3. In cultures and tufts the mycelial masses always show large numbers of small Gram-positive organisms (spores). Fine branching mycelium in the very early stage starts from these structures (demonstrated in hanging drops and smears). They are negative to Moeller's method for staining spores of ordinary fission fungi. They were not demonstrated in the tissues.
4. The active infectious agent in tissues is apparently the rod-segment.

To extend the study somewhat further a series of preparations was made from the sputum of many patients, tuberculous and others, as well as from Cases 9 and 17. This was to determine whether the Gram-picture was diagnostic of the disease and whether it appeared in sputum in the absence of microscopic tufts. No tuberculous sputum showed the same results. In Cases 9 and 17 particles of sputum chosen, carefully avoiding any macroscopic piece of the fungus, invariably gave rod-segments and fragmented mycelium. At one

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[3] Pollack, Lohlein and Chiari report organisms in blood-vessels of lung and other tissues.

time when the pus appearance of the sputum was negative in Case 9 the rod-segments and mycelium showed abundantly by Gram stain.

Culture in bouillon always gave positive results in the absence of fungus in the sputum visible to the naked eye. By these two methods moreover, the Gram stain and bouillon culture, a case that was under observation for diagnosis was suspected and proved to be positive to culture. In a few days with severe coughing and profuse expectoration the macroscopic granules appeared, clinching the diagnosis.

If continued observations show these two methods to be absolutely trustworthy it will be possible to make an early and reliable diagnosis for this disease. The simplicity of a bouillon culture and hanging drop examination, together with some Gram-stained films, brings it within the reach of all who are near any sort of laboratory facilities.

Auditorium Building.

RICKETS IN ITS EARLY STAGES AND BEST TREATMENT TO PREVENT DEFORMITIES *

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This subject has not been given much special attention recently, judging from a review of modern medical literature on diseases of children, and especially rickets, but all seemed to have been content with the fact that the disease was due to mal-assimilation with inevitable and unavoidable results and let it go at that.

Rickets is a disease of defective nutrition from mal-assimilation, augmented by the absence of sunshine and fresh air. Some authorities believe rickets due to toxins received by the child through special inheritage, while others contend the toxins are due to alimentation; however, let that be as it may, the disease is essentially a constitutional one and we must treat it as such.

The scrutinizing diagnostician will readily see that the disease is much more common than is generally supposed and will differentiate it by elimination from other diseases in children called something else. There are negatively etiologic factors which must be considered, among which are air, sunshine, hygienic environments, food and age. Like all diseases associated with impaired nutrition, it is less likely to occur among breast-fed children than among those who are deprived of their natural food. For the same reason it is more likely to occur in the latter part of the first year than in the early months, since in so many cases the breast-milk deteriorates in quality after the first six months of lactation and after one year still more so. On the other hand, premature weaning, or bottle-feeding, causes chronic indigestion, characterized by excessive acidity throughout the entire alimentary canal which overcharges the blood with acids and disturbs the ossification of the bones.

The disease exists most frequently in the temperate zone and in crowded unhygienic quarters of cities and especially large ones.

In addition to constitutional rachitic disturbances, the bone changes demand early attention, and marked changes are first noticed in the epiphyseals of the long bones most frequently at about the age of 6 months when the organic bone material exceeds the inorganic, and excessive ossification interferes with the growth of the child resulting in permanent hyperostosis.

The age limit is usually between 6 months and 3 years, and the early symptoms are many, among which, before the marked osseous change occurs, are constipation or diarrhea, gastro-intestinal disorders, night sweats, debility, inactivity, often fever, delayed dentition and rapid dental decay, but not typical Hutchinson teeth, nervousness and often convulsions, enlarged abdomen, large head, enlarged and tender epiphyses. All these symptoms may not be present, however, but there will be enough to enable one to make an easy and timely diagnosis, and as the disease is not necessarily a fatal one, it should be recognized sufficiently early to lessen the ravages and shorten the time of the disease so that no bone deformities may occur, and if they do, whether in the early deformity stage or not, there is no justifiable excuse for not preventing the deformity and correcting what exists.

The general treatment in the early stage should be constitutional in its fullest meaning, augmented by dietetic and hygienic measures, prevention of deformities, manipulation, mechanical and operative measures. Medicines are of minor importance compared to food, sunlight and fresh air; however, iron, arsenic, phosphorus, lactophosphate of lime and cod-liver oil may be given with advantage; but since the disease is self-limited, the object should be to tide the child over this period as quickly and safely as possible, remembering that during the softening stage of the bones faulty positions, muscular action, weight-bearing and atmospheric pressure are the main factors to observe in order to prevent deformities; and we should remember Wolf's law of development and equilibrium, that where there is any deviation from the normal perpendicular axis of the body, no matter in what part of the body the deviation or deformity exists, there will be a compensatory one and the entire body must pay the debt, and if this unnatural position be maintained long, the result will be permanent abnormal growth and deformity as in the case of torticollis, in which the bones of the head become flattened transversely, face distorted, eyes deficient and brain undeveloped; few such individuals live to be over 25 without becoming imbeciles.

The same principle is involved in the spine of the rachitic but to a much more serious degree, because nine out of ten such spinal curvatures are upper right dorsal, making convexity on right and concavity on left, causing the ribs to interfere with the normal functions of the organs of the thoracic cavity, especially the heart, which may result in organic lesions and a shortened life. One might thus specialize indefinitely, but generally speaking, rachitis affects the entire organism and produces marked changes in all bony and cartilaginous tissues by means of cell proliferation, and the atrophy is not due to halisteresis, but to the action of the osteoblasts and perforating canals, producing a deficiency of lime in the bones.

Hence, the proper preventive treatment during the stage of the softening of the bones should be to avoid weight-bearing on spine, arms or legs, and child kept on its back; for if it walks or sits, deformities are sure to occur; so the prone and supine recumbent positions

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* Read in the Section on Diseases of Children of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

must be maintained until constitutional and hygienic measures have conquered the disease.

It often occurs that cases are not seen by the physician until the disease has advanced far enough to present one or all of the inevitable deformities; but prompt action by an orthopedic surgeon should overcome such by means of gymnastics, manipulation, mechanical appliances, osteoclasis, osteotomy, tenotomy, myotomy, or tendon, nerve or muscle transplantation.

INTESTINAL PARASITES FOUND IN INDIVIDUALS RESIDING IN THE NORTHWEST

FREQUENT PRESENCE OF PROTOZOA IN PATIENTS WHO HAVE NEVER BEEN IN SOUTHERN COUNTRIES

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The feces of 145 patients were examined in this laboratory during the past four and one-half months. Thirty-five of these examinations were made relative to the function of the pancreas, or as controls; the remaining 110 in patients suffering with chronic diarrheas, anemias, or unexplainable abdominal conditions. In sixty-five of these 110 patients one or more of the following intestinal parasites were found; viz., *Amœba, Trichomonas intestinalis, Cercomonas intestinalis, Balantidium coli, Strongyloides intestinalis, Lamblia intestinalis, Ascaris lumbricoides or Trichocephalus dispar.* Thirty-four of the sixty-five patients, in whom these intestinal parasites were found, had never been south of the state of Iowa. Of this latter group, eleven were infected with *Entamœba tetragena* and one with *Entamœba histolytica.*

These findings are so contrary to the generally existing belief that such organisms are rarely seen in persons who have never lived in, nor visited, southern countries, that they have been considered sufficiently important to be brought to the attention of the medical profession. The series, though not a long one, seems sufficient to prove that the prevailing idea, regarding the geographical distribution of such organisms, is incorrect.

The following table shows the results of the findings:

Total number examined	145
Patients examined relative to pancreatic function or as controls, in whom no parasites were found	35
Patients examined suffering with chronic diarrhea, the passage of blood or mucus, anemia or obscure abdominal symptoms	110
Of these 110 patients, intestinal parasites were found in	65
Of these 110 patients, no intestinal parasites were found in	45
Patients showing parasites who had never been in the South or tropics	34
Patients showing parasites who had been in the South or tropics for a short time	7
Patients showing parasites who had lived in the South or tropics	15
Patients showing parasites of whom we have no clear history as to habitat (early cases with incomplete data)	9
Patients showing parasites who are known to have had diarrhea	42
Patients showing parasites who were examined on account of obscure abdominal symptoms, anemias or the passage of blood or mucus	9
Patients showing parasites who presented no symptoms of their presence	3
Patients showing parasites who presented no symptoms other than an abscess of the liver	1
Patients showing parasites who presented no symptoms other than anemia	1
Patients showing parasites in whom we had no history in regard to the above symptoms (early cases with incomplete data)	9

The following table shows the number of times each of the different parasites were seen and the number of time the various combinations of parasites were seen, i. e., in patients in whom more than one species was found.

Patients showing:

	No.
Entamœba tetragena	16
Entamœba coli	11
Entamœba histolytica	9
Small ameba and unclassified ameba	12
Trichomonas intestinalis	32
Cercomonas intestinalis	9
Lamblia intestinalis	4
Strongyloides intestinalis	1
Balantidium coli	1
Ascaris lumbricoides	1
Trichocephalus dispar	1

Patients showing the following combinations of parasites:

	No.
E. histolytica and *E tetragena*	1
E. histolytica and *Lamblia intestinalis*	1
E. histolytica and *Cercomonas intestinalis*	1
E. histolytica and *Strongyloides intestinalis*	1
E. tetragena and small ameba	1
E. tetragena and *Trichomonas intestinalis*	6
E. tetragena, E. coli, and *Trichomonas intestinalis*	2
E. tetragena, Cercomonas intestinalis and Trichomonas intestinalis	1
E. tetragena, E. coli, Cercomonas intestinalis and Trichomonas intestinalis	1
E. tetragena, Trichomonas intestinalis, Lamblia intestinalis and Ascaris lumbricoides	1
E. coli and *Trichomonas intestinalis*	3
E coli, small ameba, *Trichomonas intestinalis* and *Cercomonas intestinalis*	1
Trichomonas intestinalis and *Cercomonas intestinalis*	2
Trichomonas intestinalis and *Lamblia intestinalis*	1

The following table shows the number of times each species was found in the patients who had never been in the south or tropics:

	No.
E. coli	6
E. histolytica	1
E. tetragena	11
Trichomonas intestinalis	17
Balantidium coli	1
Lamblia intestinalis	3
Ascaris lumbricoides	1
Unclassified amebas	9
Cercomonas intestinalis	3

It will be seen that *Trichomonas intestinalis* was found more frequently than any other parasite—thirty-two times. *Entamœba tetragena,* a pathogenic ameba, recently separated from *E. histolytica* and *E. coli,* and which has been well described by Charles F. Craig,[1] was found in sixteen patients. Eleven of these are known never to have been in the South, a fact showing that this parasite—a pathogenic ameba—is frequently found in persons who have always lived in the middle Northwest.

A patient who had never been out of the state of Minnesota, and who had suffered with chronic diarrhea for eight or ten years, was found to be infected with four parasites; viz., *Entamœba tetragena, Lamblia intestinalis, Trichomonas intestinalis and Ascaris lumbricoides.* In another patient who had suffered for six months with diarrhea and who was out of Canada for the first time, *Entamœba tetragena and Trichomonas intestinalis* were found. The patient in whom *Balantidium coli* was found had suffered for twelve years with chronic diarrhea and showed a blood-picture of pernicious anemia. He had always lived in Minnesota and had never been in the South.

Eight of the nine patients showing *Entamœba histolytica* gave histories of having been in the South or tropics. The ninth patient had never before been out of the state of South Dakota. In twelve patients, amebas were found which I was unable to classify. Nearly all of these were seen at a date prior to the publication of Craig's paper, mentioned above—a communication which was of much value as an aid in differentiating the several species of amebas.

With two exceptions—*Ascaris lumbricoides* and *Trichocephalus dispar*—all of the parasites found belonged to the protozoa branch; this series of cases thus tending to show that in persons who have always lived in the middle Northwest, protozoa are more frequently found than other intestinal parasites.

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[1] Craig, C. F.: Arch. Int. Med., March 15, 1911, vii, No. 3.

While this work was being done, the pus from the mouths of twelve patients suffering with mild and well-marked cases of purulent gingivitis was examined. In six of these, *Entamœba buccalis* was found and in two, in addition to the amebas, a species of *Trichomonas* was found. Four of these six patients had never been in the South.[2]

Authors differ in their statements relative to the pathogenic features of protozoa. I do not wish to enter into a discussion of these differences of opinion, except in so far as it is necessary to make clear my own views as to why they exist. The frequency with which authors who have done no particular work in this field have copied from others may partly explain these differences. In such instances varying statements are found by them, in the different articles on the subject, and, being unable to throw the weight of their own opinions either one way or the other, through lack of personal work, they are compelled to make indefinite statements regarding the pathogenicity of the parasites under discussion. Such statements are mere conclusions, drawn from the assertions of others, and serve only to complicate matters by adding another indefinite chapter to further confuse subsequent authors. Had all of the published articles pertaining to animal parasites been written by men whose statements were based on their own work, we would, no doubt, by this time possess a far clearer conception of their pathogenic qualities.

It seems that either a negative or a positive statement, made without qualification, that protozoa are pathogenic, would be wrong. There is no doubt that they are seen in the feces of persons who show no symptoms of their presence. However, in such individuals they are generally *found in comparatively small numbers. Their* mere presence, under such conditions, does not prove that they do not possess pathogenic qualities which, perhaps under different conditions, would become apparent. My own work has certainly strongly indicated the existence of such properties.

Bacteriologists have shown that diphtheria bacilli and pneumococci may frequently be found in the throats of healthy individuals; that typhoid bacilli may be harbored, and transmitted to others, by persons who have never had a recognized attack of typhoid fever. A parallel condition may also be seen in at least one protozoan infection, for it has been long known that all that was necessary to produce an acute outbreak of malarial fever in some apparently healthy southern residents was to send them to the mountains. The *Plasmodium malariæ*, which they had harbored, under the condition in which their host had lived, had not possessed sufficient pathogenic qualities to cause the manifestation of symptoms, but a climatic change, alone, in such cases has been all that was necessary to cause them to show pronounced pathogenicity.

Individual resistance, no doubt, plays an important rôle in the explanation of the fact that the parasites may be found in persons who show no symptoms. Any of us are liable to infection; having acquired such, we may show symptoms immediately or may harbor the parasite, without symptoms, for an indefinite period. This is probably due to the fact that the organism is unable to do more than barely exist and reproduce itself in its host. The cause of this inability, as already mentioned, may be due to high resistance on the part of the host or, as suggested by Musgrave and Clegg, to the non-establishment, on the part of the parasite, of a satisfactory symbiosis with some bacterium or other parasite; a condition which has been found necessary for the growth of these organisms in culture media.

An example of this apparent resistance may be cited in individuals with amebic infections, who have recovered from a typical chronic dysentery. Such patients will often be found to harbor amebas for years and during this period may show no symptoms beyond an occasional short recurrence of the dysentery. Some do not show even this, but, if left untreated, are liable later to develop digestive disturbances and obscure pains along the colon.

Amebas in persons living in cold climates do not, as a rule, produce disturbances so serious as those seen in persons in tropical countries. The patients seen here were generally having from three to eight watery movements a day, with some mucus, but, as a rule, no blood. This, however, is not strange, for we know that persons with this disease who will not improve in tropical countries may receive great benefit by moving to cold climates; also that persons who have suffered for years with this condition generally have less trouble in winter than in summer.

Two reasons probably account for these infections being so frequently overlooked: (1) the fact that it is commonly believed that these parasites are not found in persons living in this climate; their presence not being suspected, examinations for them are not often made; (2) the fact that stools are not always examined by a method by which this group of organisms may be recognized.

The technic by which our examinations have been made is not new but will be described in detail, with the hope that it may assist some who care to go further in this work. It is the same as that which I have used for some years, while doing similar work in Louisiana, and it has been found more satisfactory than any of the other methods.

The patients are given from ½ to 1 ounce of Epsom salts before breakfast on the morning selected for the examination. After breakfast they go to the laboratory where they wait until they desire to have a bowel movement. They are then sent to a toilet where, after voiding urine, they defecate in a commode. This specimen is examined at once. A small drop of the liquid feces, or a small piece of mucus, if obtainable, is placed on a slide, covered with a cover glass and examined on a warm stage, using a 4 mm. (1/6 inch) objective. (These warm stages are easily made from almost any metal, such as copper, zinc, tin, etc., which will transmit heat and is soft enough to permit being cut into the desired shape with shears. They may be used on the ordinary stage of any microscope and are kept warm by means of a small flame from an alcohol lamp or a gas burner.) If the first movement is too solid to permit the making of a satisfactory examination without being diluted, it will be found necessary to have the patient wait for a second or third movement, these being collected in the same manner. The last stools passed will, at times, be found so watery that they are almost useless for examination. Those passed between the first movement and these watery movements will generally be found most suitable. It is best to obtain two or three movements and examine several cover-glass preparations from each.

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[2] These mouth cases are not included in the 145 cases on which this article was written.

Many infected cases are overlooked in both the North and South, through the fact that a technic similar to the above is not used. Patients are frequently seen here who have passed through numerous competent hands, but in whom parasites have been overlooked. In nearly all of these cases, this was accounted for through the fact that they had been asked to send or bring a specimen for examination. The same mistake occurs in hospital work. In these, specimens are sent to the laboratory where they may remain for several hours before being examined. A report based on an examination made after such a delay is valueless in eliminating protozoa. In some such instances they might be found, but in many cases they would not, for it is almost impossible to recognize and differentiate these organisms after their characteristic motility has been lost.

I have done nothing toward working out the sources through which these infections may have been acquired. It is probable that in the summer amebas may exist in northern water-supplies and that infections occur as in other climates. It is also possible that some infections may be acquired through uncooked vegetables and fruit which have been raised in the South and shipped moist to the northern markets or by direct transmission through previously infected persons.

It seems as though the geographical distribution of these organisms is greater than is generally supposed, and it is probable that careful examinations will show that they frequently exist in countries now thought to be almost free from them.

Many points regarding the life habits of these parasites, their methods of reproduction and the manner in which they cause symptoms—whether through mechanical irritation or toxins—remain to be cleared up. A great field is open to workers who wish to devote their time to the study of some of the problems along this line.

CONCLUSIONS

1. The common belief that intestinal protozoa are seen only in persons who have lived in or visited the South or tropics is erroneous. They are frequently found in persons who have always lived in the North and, when seen in great numbers, are generally found associated with chronic diarrheas, obscure abdominal pains or anemias.

2. Many infected cases are probably overlooked; first because parasites are not suspected and, hence, not looked for; second, because poor technic is used in examining the specimens.

3. Of the animal parasites found in patients who had never been in the South, protozoa were more frequently seen than all the other varieties.

4. *Entamœba tetragena*—a pathogenic ameba recently separated from *E. histolytica* and *E. coli* by Viereck—was often found in persons who had never been in the South. It is probable that this organism accounts for many of the chronic diarrheas seen in persons living in this part of the United States.

I wish to thank Dr. Louis B. Wilson for his kindness in having examined with me many of the specimens in which the diagnosis of the particular species of organism was questionable.

Galen on Commercialism.—"The good physician should practice with disinterestedness, not for money but for the good of humanity. It is not possible to covet riches and at the same time to cultivate worthily medicine, that art so noble; if a man devote himself ardently to one, he will certainly neglect the other."

THE RELATIVE VALUE OF PHYSICAL AND FUNCTIONAL SIGNS IN THE MANAGEMENT OF FAILING CIRCULATION *

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The impetus given to the study of pathologic anatomy by the discoveries and theories of Virchow and his pupils influenced clinical medicine so greatly that from that time most of our efforts have been directed toward arriving at a clear diagnosis of the anatomic changes wrought by disease.

Our clinical examination attempts to determine the changes in size and configuration of organs, and by correlating these data with the facts revealed in the history of the patient, we try to arrive at an anatomically correct diagnosis.

Such a conception of our diagnostic aim, and the accompanying neglect of the problems of functional disturbance, could lead only to the therapeutic nihilism which we know followed the triumph of pathologic anatomy. It was seen then that these structural changes could not be cleared away by treatment, except in the few cases in which our remedy deals directly with the cause of the disease. Even surgery, with all its advances, is generally called on to remove the results and not the cause of disease. We must recognize clearly, then, that in the great majority of cases our treatment does not pretend to alter the anatomic changes, but endeavors only to restore the balance of function.

Intelligent treatment, then, should be preceded by an accurate functional diagnosis, which must include a consideration not only of the changes in the organ primarily affected, but of the disturbances set up in the whole body by the failure of that organ to do its share of work. Our neglect of this functional problem has thrown our dependence entirely on the results of our physical examination, so that our conclusions stand or fall with accuracy of the methods employed.

Nowhere in the realm of physical diagnosis can we find more varied or more accurate methods than those which we now use in studying the heart, and their accuracy is due largely to the innumerable autopsy records which have been and can still be of tremendous importance in controlling our findings. It must be remembered, however, that this experience was gained almost entirely in cases of advanced heart disease from which the patient had died as the result of a failure in compensation. Our methods have shown such pronounced and unmistakable changes in these hearts that we now try to discover the beginnings of organic heart disease, or to exclude functional trouble simply by demonstrating slight deviations from our accepted standards. The recent advances in our knowledge of the intricate disturbances that may take place in the heart-muscle have imposed on us the necessity for recognizing these changes also in their incipiency.

Any one who is constantly being called on to say whether a certain pain is anginoid or due to a coronary sclerosis, or whether a little shortness of breath associated with occasional extrasystoles is due to a beginning myodegeneration or to a high diaphragm, will appreciate an inquiry into the accuracy of our methods. After an extended study of these borderline cases, it seems to me that the great majority of physicians overestimate the value of physical diagnosis and pay too little attention to the condition of the other organs whose welfare depends on an intact circulation. They are too prone to diagnose dilatation or hypertrophy whenever they find an increase in the heart dulness, and the patient is made miserable at the prospect of an incurable disease. Credit should here be given to Romberg who was one of the first to deplore this tendency.

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

We were inclined to believe implicitly in the accuracy of percussion in outlining the heart until Moritz' orthodiagraph enabled us to check our figures, and showed that good men can often make mistakes of 4 to 5 cm. on either side of the heart. Fortunately, we now possess a number of methods, foremost among which I would mention Goldscheider's "threshold percussion" which enables us to outline the heart and large vessels with an error of 0.5 to 0.75 cm. on either side. But even after securing this outline and finding it so nearly in accordance with the orthodiagram, we must still consider the following sources of error:

1. Changes in size and position produced by systole and diastole.
2. Changes in the size of the heart due to respiration.
3. Changes in the size of the heart due to pathologic changes within the chest.
4. Changes in the size of the heart produced by pathologic conditions in the abdomen.
5. Changes in the size of the heart depending on the general configuration of the body.

The left border of the heart is hard to locate for several reasons. For instance, since percussion can be directed only perpendicularly to the surface, the curvature of the chest near the apex causes us to encounter the heart-dulness considerably outside the point where it would appear if we could percuss strictly anterior-posteriorly. Thus, the heart appears to be larger and the error varies according to the degree of curvature. In the emphysematous it may be quite considerable. Palpation should help us most at this point, but unfortunately, the apex-beat is liable to be very diffuse in just those cases in which we must differentiate between beginning dilatation and a neurosis. The apex may lift the chest-wall so widely that the outer border of the pulsation will be sometimes several centimeters outside the real heart-border which is identical with the point of maximum impulse, if that can be made out. Again, the intensity of this impulse is often taken as an indication of the force of the heart contraction, while it really depends largely on the position of the heart within the chest.

The orthodiagraph may also fail us at the apex, as the shadow of the heart is likely to be buried here in that of the diaphragm. The efforts of Moritz to overcome this difficulty do not seem to me to have succeeded sufficiently to warrant us in following his deductions.

The orthodiagram gives us a silhouette smaller than the actual diameter of the heart, owing to its oblique position in the chest. The amount of rotation varies but slightly, still, if the greater diameter of the heart becomes more nearly parallel to the anterior chest-wall, the error introduced might be enough to incline our judgment to the diagnosis of an enlarged heart.

The outline of the heart changes with each systole and diastole, especially on the left side where the ventricle diminishes in size 2 to 3 cm. with systole. The right border moves much less as it is formed by the more feeble right auricle. These changes do not appear on percussion, since only the diastolic outline is obtained, but they are seen very plainly with the orthodiagraph.

Respiration affects the right side of the heart markedly in two ways. The negative pressure during inspiration aspirates the blood into the right auricle, while at the same time the diaphragm expresses blood from the abdomen into the thorax. Then expiration reduces the size of the right auricle.

The change in position of the heart which occurs during respiration has a marked influence on the apparent transverse diameter. The base of the heart is more or less fixed by the great vessels, while the apex follows the diaphragm up and down. When it is down, the heart is more nearly vertical in position and the transverse diameter appears to be lessened. At the same time, there is a rotation which further reduces the width of the silhouette. An unequal inflation of the lungs will displace the heart from its position in the mediastinum, and quite frequently this is mistaken for a dilatation.

Foremost among the pathologic conditions of the chest which must be studied in this connection is kyphoscoliosis. We have all seen the bizarre distortions of the heart outline which are frequently met with in this condition. Doubt often remains as to whether there is a dilatation, especially on the right side, or whether the increased dulness is due purely to a change in position.

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Before deciding on the presence of the dilatation we must compare the relations of the heart dulness to the whole body. The neglect of this important rule has led to the theory of cardiac hypertrophy at puberty. The thorax lags behind the heart in its development at this time, so that the heart becomes relatively large; the apex beat can often be felt below the fifth interspace outside the mammillary line, and the impulse is very heaving on account of the thinness of the chest-wall. The coexistence of these findings with a juvenile arrhythmia so frequently seen is strongly suggestive of myocardial disease, but the whole condition clears up with the development of the thorax.

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Thus we see that any attempt to found the differential diagnosis between functional and beginning organic heart disease on a questionable enlargement is pseudoscientific. Since the methods at our disposal are inaccurate and do not furnish sufficient data in themselves, we must welcome two more factors which can be of great service in reaching a conclusion—the questions of function and of probable etiology.

By far the most important evidence in this problem is to be derived from a study of the circulatory changes throughout the body, and little signs of failure can be found, in this way, long before the most careful methods can detect anything wrong with the central organ. A large soft liver associated with severe flatulence and distention of the stomach are usually the first tidings of a break in compensation, and edema of the ankles soon completes the picture of right-sided failure. Sometimes this well-known syndrome is preceded a few days by a sudden gain in weight due to interstitial edema without any other objective sign. This point, while well known, does not seem to have received the attention it deserves, but I would emphasize it particularly as it has proved invaluable in my hands.

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When we come to the treatment of these diseases, we must study still further the functional side of the problem. Leaking valves and an increase in the size of the heart do not call for medication, so long as the heart muscle compensates and maintains a good circulation. It is only when the signs of insufficient circulation begin to appear in various parts of the body that we must interfere.

For purpose of treatment, heart diseases may be divided into two groups; the first includes all cases of rheumatic origin and the other is characterized by a primary progressive disease of the arteries. The common signs of failure in the first group are: râles at the base of the lung posteriorly, a gain in weight, enlargement of the liver and edema of the ankles. It is in these cases that digitalis earns its great popularity, and we must judge of the rate of improvement by the subsidence of the symptoms just described and not by any diminution in the size of the heart. In my experience the finding of narrowed heart dulness is generally the result of autosuggestion. The disappearance of edema, an increase in the total amount of urine, and a slowing of the heart-rate are much more reliable gauges of the heart's condition.

The arterial degenerations of the second group often lead to conditions closely resembling those of the first group. Here, too, there may be a leaking aortic or mitral valve with dilatation and hypertrophy of either ventricle, but the treatment must be along different lines. Not only is the heart diseased in these cases, but there is a deterioration of almost every vital organ following years of deficient blood-supply. This is particularly true of the kidney and the symptoms in these cases are frequently those of slight uremia. The arterial origin of the apparent heart disease is betrayed by the estimate the value of physical diagnosis and pay too little attention to the condition of the other organs whose welfare depends on an intact circulation. They are too prone to diagnose dilatation or hypertrophy whenever they find an increase in the heart dulness, and the patient is made miserable at the prospect of an incurable disease. Credit should here be given to Romberg who was one of the first to deplore this tendency.

We were inclined to believe implicitly in the accuracy of percussion in outlining the heart until Moritz' orthodiagraph enabled us to check our figures, and showed that good men can often make mistakes of 4 to 5 cm. on either side of the heart. Fortunately, we now possess a number of methods, foremost among which I would mention Goldscheider's "threshold percussion" which enables us to outline the heart and large vessels with an error of 0.5 to 0.75 cm. on either side. But even after securing this outline and finding it so nearly in accordance with the orthodiagram, we must still consider the following sources of error:

1. Changes in size and position produced by systole and diastole.
2. Changes in the size of the heart due to respiration.
3. Changes in the size of the heart due to pathologic changes within the chest.
4. Changes in the size of the heart produced by pathologic conditions in the abdomen.
5. Changes in the size of the heart depending on the general configuration of the body.

The left border of the heart is hard to locate for several reasons. For instance, since percussion can be directed only perpendicularly to the surface, the curvature of the chest near the apex causes us to encounter the heart-dulness considerably outside the point where it would appear if we could percuss strictly anterior-posteriorly. Thus, the heart appears to be larger and the error varies according to the degree of curvature. In the emphysematous it may be quite considerable. Palpation should help us most at this point, but unfortunately, the apex-beat is liable to be very diffuse in just those cases in which we must differentiate between beginning dilatation and a neurosis. The apex may lift the chest-wall so widely that the outer border of the pulsation will be sometimes several centimeters outside the real heart-border which is identical with the point of maximum impulse, if that can be made out. Again, the intensity of this impulse is often taken as an indication of the force of the heart contraction, while it really depends largely on the position of the heart within the chest.

The orthodiagraph may also fail us at the apex, as the shadow of the heart is likely to be buried here in that of the diaphragm. The efforts of Moritz to overcome this difficulty do not seem to me to have succeeded sufficiently to warrant us in following his deductions.

The orthodiagram gives us a silhouette smaller than the actual diameter of the heart, owing to its oblique position in the chest. The amount of rotation varies but slightly, still, if the greater diameter of the heart becomes more nearly parallel to the anterior chest-wall, the error introduced might be enough to incline our judgment to the diagnosis of an enlarged heart.

The outline of the heart changes with each systole and diastole, especially on the left side where the ventricle diminishes in size 2 to 3 cm. with systole. The right border moves much less as it is formed by the more feeble right auricle. These changes do not appear on percussion, since only the diastolic outline is obtained, but they are seen very plainly with the orthodiagraph.

Respiration affects the right side of the heart markedly in two ways. The negative pressure during inspiration aspirates the blood into the right auricle, while at the same time the diaphragm expresses blood from the abdomen into the thorax. Then expiration reduces the size of the right auricle.

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Digitalis will only aggravate such cases, and treatment must be directed toward relieving the kidney. Most important then is a salt-free low protein diet, supplemented by the free use of diuretics.

Above all, we must remember that we are dealing not with diseased organs but with sick people, and in studying the physical changes in one part, we must not overlook the secondary changes throughout the whole body.

THE RELATION OF CARDIAC IRREGULARITIES TO TREATMENT *

ALBION WALTER HEWLETT, M.D.
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In the treatment of heart disease the interest centers chiefly on the symptoms of broken compensation, and to a lesser extent on sensations referable to the heart. Changes in cardiac rate or rhythm may influence either of these. A feeling of palpitation sometimes accompanies tachycardias and marked irregularities; and sensations of heart-jumps or heart-stops are common to those who have extrasystoles. Even though the trouble seems to be nervous, and the general circulation is well maintained, nevertheless, so long as the rate or rhythm of the heart is disturbed a condition is present which fixes the attention of an apprehensive patient and interferes with his recovery.

EFFECTS OF DISTURBED RHYTHM ON THE BLOOD-FLOW

Variations in the cardiac rhythm may, moreover, actually impede the circulation. There is an optimum range for the heart-rate which permits this organ to act at the best advantage, and rates which are much above and much below this are mechanically disadvantageous. Very fast rates interfere with the filling of the heart during diastole, and slow rates are not compensated for by an increased output at each systole. Henderson[1] has shown that for the normal dog the total output from the heart does not increase proportionately to increases of rate above the normal. The shortening of diastole lessens the filling of the heart and while the total output increases fairly rapidly with increases of rate up to 120 beats per minute, increases in rate beyond this are accompanied by rapidly diminishing increases in total output, until beyond still higher rates (150 to 220) there is an actual diminution in the total output. On the other hand, rates below 80 per minute are accompanied by a reduced output which is almost proportional to the reduction in rate. This applies both to continuously rapid and continuously slow rates as well as to occasional variations in rhythm. A missed beat, for example, is not entirely compensated for by an increased expulsion of blood at the next systole, while a series of very rapid contractions are apt to be ineffectual.

Variations in rhythm may also be mechanically disadvantageous for the reason that the auricles and ventricles contract simultaneously. During such simultaneous contractions the auricles cannot empty themselves into the ventricles, but send a reflux wave back into the veins, opposing the flow in these vessels. In paroxysmal tachycardia the heart action may be so rapid that the ventricular systoles coincide with the auricular systoles of the following heart-cycle (Wenckebach's critical heart rate).[2] The same thing may occur when the conduction time between auricles and ventricles is greatly slowed, or when extrasystoles, originating in the ventricles, cause these chambers to contract simultaneously with the auricles. In such cases the auricular contractions oppose the venous flow. In auricular fibrillation the auricles are motionless from the mechanical point of view, and while the mechanical effect of auricular contractions has probably been overrated,[3] still in mitral stenosis the auricles seem to be a factor in maintaining compensation,[4] and their loss of coordinate contractile power must be mechanically disadvantageous. Finally, irregularities may be disadvantageous for the reason that the ventricles contract in an abnormal manner. Electrocardiograms have shown the ventricular extrasystoles commonly pursue an abnormal path in spreading over the ventricular muscle and such extrasystoles frequently produce pulses much smaller than one would anticipate from the duration of the preceding diastoles.

For these reasons it is evident that cardiac irregularities deserve more attention than has usually been accorded to them in the treatment of heart disease. The same heart muscle which could carry on the circulation if it contracted regularly and at a proper rate would be insufficient when contracting irregularly, too frequently, or too slowly. This seems to be the explanation of the signs of insufficiency which may occur during prolonged attacks of paroxysmal tachycardia. A similar insufficiency may develop during paroxysms of auricular fibrillation[5] and disappear when the latter pass off. The occurrence of very numerous extrasystoles may also be accompanied by increased symptoms of insufficiency. In these cases the potential capabilities of the heart probably remain unchanged, but the wasteful manner in which the muscle is made to contract causes the insufficiency.

SCOPE OF DISCUSSION

In discussing the relation of cardiac irregularities to treatment we shall limit ourselves to the commoner and more important forms and shall discuss the relation of drugs both in causing and alleviating these. Unfortunately, it is difficult to transfer the results of animal experiments to man. In the first place, relatively large doses of drugs are commonly used on animals, and "acute" experiments are not strictly comparable to the common therapeutic practice of giving small doses of a drug over a prolonged period of time. In the second place, we are usually dealing, in clinical cases, with an abnormal heart muscle which may be sensitive to small doses or insensitive to relatively large doses of a drug. For these reasons the results of animal experiments must be constantly checked by observations at the bedside and these latter need the most careful scrutiny in order to be reliable.

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Henderson, Yandell: Acapnia and Shock: A Principle Underlying the Normal Variations in the Volume of the Blood-Stream and the Deviation from This Principle in Shock, Am. Jour. Physiol., 1909, xxiii, 345.

[2] Wenckebach, K. F.: Ueber eine kritische Frequenz des Herzens bei paroxysmaler Tachykardie, Deutsch. Arch. f. klin. Med., 1910, ci, 402.

[3] Henderson, Yandell: The Volume Curve of the Mammalian Heart and the Significance of This Curve in Respect to the Mechanics of the Heart-Beat and the Filling of the Ventricles, Am. Jour. Physiol., 1906, xvi, 325.

[4] Hirschfelder, Arthur D.: The Volume Curve of the Ventricles in Experimental Mitral Stenosis, and Its Relation to Physical Signs, Bull. Johns Hopkins Hosp., 1908, xix, 319.

[5] Fox, G. H.: The Clinical Significance of Transitory Delirium Cordis, Am. Jour. Med. Sc., 1910, cxl, 815.

VAGUS IRREGULARITIES

The various forms of cardiac irregularities have but little in common beyond the fact that some seem to depend on changes in the heart muscle and others on nervous influences. They must, therefore, be taken up separately in their relations to treatment.

The irregularities which are due to unusually labile vagus control of the heart rate occur most frequently in young persons, in neurotic individuals, and after infectious diseases. They are favored by the use of digitalis.[6] As these irregularities have no significance beyond indicating an unusually active vagus control they do not require treatment and the patient or relatives, if alarmed, should be reassured. Large doses of atropin will cause their complete or partial disappearance, with a simultaneous increase in heart-rate, but the effect is usually only temporary and the drug is not indicated for therapeutic purposes.

HEART-BLOCK

Partial block, or an interruption of some but not of all stimuli traveling from the auricles to the ventricles, has been frequently produced in susceptible individuals by drugs of the digitalis series, viz., digitalis, strophanthin, squills. For example, in a patient recently at the University Hospital the intravenous injection of 1 mg. of strophanthin caused a previously regular heart to show an immediate partial block, with one ventricular to two or three auricular beats.[7] The mechanism by which digitalis causes partial block in man is not entirely understood. Since it stimulates the vagus nerve, and such stimulation may cause partial block, one may assume that we are dealing with a pure vagus effect. In the majority of cases, however, a simultaneous slowing of the auricles has not occurred, which would seem to indicate that in these hearts the conduction apparatus between auricles and ventricles was abnormally sensitive to digitalis. When the conduction time is already reduced, as shown by a lengthened *a-c* interval on the venous pulse, one should be especially cautious in the use of digitalis.

In the treatment of a patient with heart-block, whether partial or complete, our first endeavor should be to find and to remove the cause. If the patient has been taking large doses of digitalis or allied drugs these should be temporarily discontinued. Of the various lesions which may effect the bundle of His, such as tumors, acute inflammations, fibrous changes and syphilitic processes, the latter alone are directly amenable to drugs, and in the presence of a positive Wassermann reaction, antisyphilitic treatment is urgently indicated. Improvement following such treatment has been recorded on several occasions.[8] It should be remembered, however, that blocks may disappear spontaneously, especially when they occur in connection with acute infectious diseases.[9]

When a complete block does not disappear either spontaneously or as a result of treatment, the circulation may be improved, theoretically at least, either by increasing the abnormally slow ventricular rate, or by increasing the efficiency of the individual ventricular contractions. It is known that toxic doses of digitalis may increase the ventricular rate so markedly that it exceeds the auricular rate,[10] and the question naturally arises whether smaller doses might not increase it sufficiently to be of therapeutic value in complete block. Few deliberate attempts[11] to accomplish this are on record, and these have not given striking results. In a case which I reported with Dr. Barringer,[12] large doses of digitalis did not increase the ventricular rate, but they did cause ventricular extrasystoles; and it is possible that the rapid ventricular rate of experimental digitalis poisoning is due to a succession of extrasystoles. If this be true, we can expect no beneficial results to follow an attempt to increase the ventricular rate in patients with complete block by pushing digitalis medication. On the other hand, the slow ventricular action is no contraindication to the use of this class of drugs, for the latter do not slow automatically beating ventricles. The good results which sometimes follow the use of digitalis in complete block is probably explainable by its effect on the efficiency of the individual muscular contractions.

In partial heart-block digitalis should be used very cautiously if at all, because it tends to increase the block, and this may more than compensate for any beneficial effect it has on the force of the ventricular contractions. In some cases of partial block the irregularity may be overcome by the use of atropin injections. I have seen one case in which atropin stopped the block, but in several other cases the injection of atropin was ineffective.[7]

EXTRASYSTOLES

By extrasystoles we mean cardiac contractions which originate in parts of the heart muscle other than those normally governing its rate. These seem to be due either to abnormal stimuli or to a local condition of increased muscular irritability. Extrasystoles are extremely capricious in their appearance and this makes it very difficult to demonstrate the effects of drugs either as causative or curative factors. In elderly persons they are less apt to disappear completely than in young individuals; probably because in the former they are more often due to chronic myocardial changes, while in the latter they are often due to acute changes or to toxic agents. The abuse of tobacco is generally recognized as an important etiologic factor and I have seen several cases in which extrasystoles disappeared in young individuals after discontinuing tobacco. Tea, coffee, or any condition which increases the general nervousness of an individual may also perhaps increase the irritability of the heart muscle and the tendency to extrasystoles. In large doses digitalis is capable of causing extrasystoles. In smaller doses its effect is not so certain. Wenckebach believes that experimental evidence favors the view that small doses of digitalis lessens cardiac irritability and he has seen extrasystoles disappear in patients to whom small doses of the drug were given. Owing to the capriciousness of extrasystoles I am inclined with Cushny to doubt a direct relation between the drug and the disappearance of extrasystoles and have never been able to convince myself that this effect was produced independently of its effect in lessening the cardiac insufficiency. In two patients I have recorded the occurrence of extrasystoles on long, continuous tracings before and after intravenous injections of 0.001 strophanthin, but I was not able to demonstrate any definite effect of the drug on the irregularity.

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[7] Van Zwaluwenburg, J. G.: Some Observations on Heart-Block, Arch. Int. Med., 1911, viii, 141.

[8] Erlanger, Joseph: The Physiology of Heart-Block in Mammals, with Especial Reference to the Causation of Stokes-Adams Disease, Jour. Exper. Med., 1905, vii, No. 6; 1906, viii, No. 1.

[9] Peabody, Francis W.: Heart-Block Associated with Infectious Diseases, Arch. Int. Med., 1910, v, 252.

[10] Cushny, A. R.: The Action of Substances of the Digitalis Series on the Circulation in Mammals, Jour. Exper. Med., 1897, ii, 233.

[11] Bachmann, George: Complete Auriculoventricular Dissociation Without Syncopal or Epileptiform Attacks, Am. Jour. Med. Sc., 1909, cxxxvii, 342. See also Wenckebach, Note 6.

[12] Hewlett, A. W., and Barringer, T. B.: *The Effect of Digitalis on the Ventricular Rate in Man*, Arch. Int. Med., 1910, v, 93.

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In the great majority of cases of auricular fibrillation we are dealing with a permanent condition, which persists in spite of all treatment. Even the paroxysmal form of the irregularity is remarkably difficult to control and we have no certain method of preventing or aborting the paroxysms. For example, in a case recently under observation at the University of Michigan Hospital, the frequent recurrence of the irregularity gave opportunity for testing the effect of many cardiac remedies. None proved very efficacious, though pilocarpin injections sometimes seemed to abort the attack.

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CONCLUSIONS

Each form of irregularity has its own problems. With regard to treatment these have been in part solved, but for the most part they still await solution. To accomplish this we need more experimental evidence having direct bearing on the use of drugs in cardiac irregularities and we need, especially, studies concerning the effect of drugs on the irritability of the heart muscle, for abnormal irritability seems to play an important part in the causation of extrasystoles and auricular fibrillation. Finally, we need more accurate studies on the effect of cardiac remedies on patients with heart disease, following some such scheme as that recently suggested by Mackenzie.[16] From data thus obtained we may expect to be able to select drugs and to predict their effects with greater precision than has been possible in the past. Nor does it seem improbable that new drugs or new indications for old drugs will be discovered by such careful studies.

Production of Artificial Life.—The failure of scientists so far to produce "artificial life" is not to be charged against the science of biology. Very few of the attempts to produce "artificial life" have been made by biologists, who realize too well the complexity of the problems involved. The biologists will be satisfied for a number of years to come if they succeed merely in analyzing what goes on in a living cell, in terms of physical and chemical processes. From time to time they will attempt to imitate a structure or a process by means of a working model; but they will not speak of artificial life until they are quite sure of all the conditions that play a part in this most intricate of phenomena.—B. C. Gruenberg in *Scientific American.*

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[13] Hewlett, A. W.: Auricular Fibrillation Associated with Auricular Extrasystoles, Heart, 1910, ii, 107.

[14] Hewlett: Heart-Block in the Ventricular Walls, Arch. Int. Med., 1908, ii, 139.

[15] Lewis, T.: The Reaction of the Heart to Digitalis When the Auricle Is Fibrillating, Brit. Med. Jour., 1910, ii, 1670.

[16] Mackenzie, J.: A Scheme for Investigating the Effects of Treatment on the Human Heart, Heart, 1910, ii, 9.

THE EFFECT OF THE DIGESTIVE SECRETIONS ON THE ACTIVITY OF DIGITALIS AND ALLIED DRUGS *

WORTH HALE
Assistant Pharmacologist, U. S. P. H. and M.-H. Service
WASHINGTON, D. C.

As is well known, the glucosids in general are comparatively unstable chemical substances and are easily broken down into a sugar and some other substance. A number of factors are operative in splitting up the glucosidal molecule, but chief among them, especially in the presence of heat, are certain enzymes, the alkalies, and the mineral acids.

In view of these facts it is not at all surprising to find that certain of the digitalis glucosids have been reported to be broken down to a greater or lesser degree, either by the enzymes of the gastric or pancreatic secretion, or by the acids or alkalies added to these enzymes to make them active. Three researches may be noted as specifically showing this deterioration.

In 1896 Deucher observed clinically in cases of heart disease and dropsical conditions that digitalin verum was almost invariably much more potent when given subcutaneously than when given by the mouth. As this difference was much greater than is common when other drugs are thus administered he came to the conclusion that the digitalin was probably changed either in the stomach or in the intestinal tract into partially inert compounds by the action of the hydrochloric acid of the stomach or by the ferments found in the stomach and intestine.

In an effort to prove whether this hypothesis was correct or not Deucher[1] carried out a series of experiments in which definite amounts of digitalin verum were subjected, with certain exceptions, for twenty-four hours to the action of artificial digestive secretions. For the purpose of subsequently determining the changes, if any, which were produced, frogs were injected with equivalent amounts of the digitalin, subjected to artificial digestion, and an undigested control, the time of appearance of the systolic stoppage of the exposed hearts being noted as an end reaction. From these experiments he came to the conclusion that the digitalin was partially broken up into inert compounds by the action chiefly of dilute hydrochloric acid, 0.2 per cent., although the presence of pepsin seemed to accelerate the breaking down to some extent. The pancreatic solution employed by him was found to be inactive.

Deucher further suggested the possibility that the other glucosids of the digitalis group might be broken up by the action of the digestive agents, but he seems to have only made experiments with digitalin verum.

In 1907 Löwy[2] supplemented Deucher's work by investigating the effect of acid, acid pepsin, and alkalies, on the infusion of digitalis, and on the pure principles helleborein and strophanthin. He found that in the presence of heat, after twenty-four hours, hydrochloric acid and acid pepsin solutions reduced the activity of the infusion and of helleborein. He concluded, however, that the 0.2 per cent. acid at the body temperature alone caused the deterioration noted and that the pepsin was without effect. Löwy also noted that moderately strong alkali solutions (0.5 per cent.) decreased the activity of the infusion.

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As opposed to this latter view Hatcher,[3] in working with strophanthin, came to the conclusion that both acid peptic and alkaline pancreatic digestion for two hours caused some diminution in the toxicity of the strophanthin. In considering the opposed finding of the two investigators, however, it is to be noted that strophanthin is an indefinite term and it is quite possible that the two observers worked with different strophanthins, one of which was more easily attacked by the digestive agents.

As a fact of considerably more importance, it was found by Hatcher and Bailey[4] that the toxic dose of strophanthin for cats by the stomach was five or six times that by intravenous injection, and after a lengthy series of experiments they came to the conclusion that the lessened activity of the drug when given by the stomach depended only to a small degree on the destructive action of the digestive secretions, and that the chief factor in decreasing its toxicity depended on a delayed absorption.

Findings such as these with digitalin verum, with the infusion, and with strophanthin, raises the very important question of proper dosage of these bodies. With a drug so powerful as digitalis, no therapy can be regarded as safe unless the exact strength of the drug employed is known, and if deterioration goes on in the stomach and intestines before absorption these facts should be known.

To this end a number of further experiments along this line were deemed worth while, not only as confirmatory of the findings above recorded, but also to test the rate of deterioration by making use of an exact assay method for determining the degree of change of the substances in question, after subjecting them to the action of the digestive agents for a time more nearly analogous to the conditions found *in vivo*. These were accordingly tested to determine the degree of deterioration when subjected to the action of hydrochloric acid, with and without the addition of pepsin, and of alkali with pancreatin, and in certain instances of emulsin, a glucosidal-splitting ferment found in bitter almond and other seeds.

For the purpose of assaying the preparation before and after digestion the one-hour frog-heart method was used. This, in brief, consists in determining the least amount of the drug which will just produce permanent systole of the ventricle of the frog *Rana pipiens* at the end of one hour. The drug is injected in solution into the anterior lymph-sac, and a temperature of 22 C. is maintained throughout the experiment, the heart being exposed at the end of one hour.

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To test the effect of the gastric secretion on digitoxin, a weighed amount placed in a cylinder was subjected to the action of an artificial gastric juice containing 0.25 per cent. hydrochloric acid and 0.1 per cent. scale pepsin. The undissolved digitoxin was placed in an incubator at 38 for three hours, and was then taken up with enough alcohol to just form complete solution. This solution assayed 0.011 mg. per gram frog weight. A second weighed amount similarly treated assayed after three hours in the incubator, 0.010 mg. per gram frog weight. Eighteen hours later this solution of digitoxin which was kept at room temperature assayed 0.013 mg. per gram frog weight.

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A weighed amount of digitoxin was then subjected to the action of 0.25 per cent. hydrochloric acid for three hours at 38°. At the end of this time it assayed 0.01 mg. per gram frog weight; at the end of eighteen hours at room temperature it assayed 0.014 mg. This decrease in activity, approximately parallelling that of the acid pepsin digestion, would indicate that the acid alone was the active agent in breaking down the digitoxin molecule, and that the pepsin was inactive.

Pancreatic secretion containing the pancreatin 0.1 per cent. dissolved in 0.15 per cent. sodium carbonate was allowed to act at 38° on weighed amounts of digitoxin for periods of three hours, and also eighteen hours at room temperature. At the end of three hours the assay gave 0.008 mg. per gram frog weight in duplicate experiments, thus showing no decomposition from pancreatic digestion. When subjected to digestion for eighteen hours, however, there was some deterioration, the assay value being 0.010 mg.

FRENCH DIGITALIN

French digitalin, consisting mainly of digitalin verum, was tested, the undigested control assaying 0.012 mg. per gram of frog weight. A weighed amount was subjected to the action of an artificial gastric juice for a period of three hours. It then assayed 0.013 mg. per gram weight. After eighteen hours at room temperature the assay showed further deterioration, 0.016 mg. per gram frog weight being necessary to produce systolic stoppage of the heart. Hydrochloric acid alone was approximately equally effective in causing deterioration as the combined acid and pepsin.

No deterioration was obtained under treatment of weighed amounts of French digitalin with an artificial pancreatic secretion.

DIGITALEIN

Digitalein was assayed, the effective dose being 0.024 mg. per gram of frog weight.

In a weighed amount, 0.25 per cent. hydrochloric acid and 0.1 pepsin were added. After digestion at 38° for three hours the assay showed a deterioration, the amount then necessary to produce systolic stoppage of the heart being 0.032 mg. Hydrochloric acid, 0.25 per cent., without the pepsin caused deterioration so that at the end of three hours at 38°, 0.030 mg. was required to bring the ventricle into permanent systole.

Under artificial pancreatic digestion very little, or no deterioration, was observed. A value of 0.026 mg. was obtained, but owing to incomplete absorption in a large number of assays this result is to be questioned.

Digitalein was tested to determine the effect of emulsin, the glucosid-splitting ferment of bitter almond seeds. The assay value after three hours at 38° gave 0.028 mg. as the amount required to produce systole of the ventricle, thus showing a slight decomposition.

TINCTURE OF DIGITALIS

Having found by the above assays that the chief glucosids found in digitalis were less active after digestion with an artificial gastric juice, experiments were carried out with the tincture. As the glucosids digitoxin, digitalin, and digitalein, are all represented in the tincture, these experiments would also be expected to give analogous results and to be in the nature of duplicates.

The first tincture to be assayed gave a value before digestion of 0.010 c.c. per gram of frog weight. After evaporation of the alcohol, 0.25 per cent. hydrochloric acid and 0.1 per cent. pepsin were added and kept at 38° for three hours. At the end of that time the assay value was found to be 0.014 c.c.

A second tincture assayed 0.008 c.c. per gram of frog weight. An evaporated portion was subjected to artificial gastric digestion for three hours at 38°, and then gave an assay value of 0.012 c.c. After standing eighteen hours at room temperature the assay value was 0.016 c.c.

This tincture was subjected also to the action of an artificial pancreatic juice made up with 0.2 per cent. alkali and 0.1 per cent. pancreatin. In two experiments there was about 25 per cent. deterioration after three hours at 38°. Whether this is invariable cannot be stated, but in view of the fact that none of the glucosids showed deterioration, it may be questioned. It also brings up the point that in the crude tincture, enzymes natural to the digitalis leaf may become especially active with an alkali present, and thus explain the discrepancy in results. This point will be further investigated.

STROPHANTHIN

The discrepancy in the dose of strophanthin is so great by stomach and intravenously that, it was hoped in view of the deterioration with the digitalis glucosids, an investigation of the changes going on under artificial digestion might throw some further light on the question.

The control assay of strophanthin gave a value of 0.00055 mg. per gram of frog weight.

A weighed amount of strophanthin under artificial gastric digestion assayed 0.00065 mg.; thirty-six hours later the assay showed marked deterioration at room temperature, the value being 0.0015 mg. A second weighed sample after three hours' digestion assayed 0.0007 mg., and at the end of twenty-four hours at room temperature, 0.0010 mg. Pancreatic digestion showed much less action on strophanthin. A sample subjected to alkaline pancreatic juice for three hours assayed 0.0006 mg.; twenty-four hours later the assay was still 0.0006 mg. A second sample under pancreatic digestion for three hours showed no deterioration, nor when tested after twenty-four and thirty-six hours at room temperature.

Emulsin had a very slight effect, reducing the activity after three hours in the incubator, to 0.0007 mg. per gram frog weight.

That strophanthin might also be destroyed in the liver is a possible conclusion, but experiments with minced cats' and frogs' livers showed that no decomposition took place after two hours at 38°.

From this series of experiments it is to be noted that the acid of the gastric secretion invariably causes some diminution in the action of the glucosids of digitalis and strophanthus. It is not believed, however, that an exact determination of the degree of decomposition in practice can be made, for in all probability the rate is somewhat more rapid under actual conditions, owing to the motility of the stomach and the comparatively greater dilution of the glucosids. The rate of deterioration, however, appears to be about the same for the various glucosids, about 25 to 35 per cent. in three hours, so that this fact need not be taken into notice in therapeutics. The further factor, however, of the action of the decomposition products of these glucosids must be considered, and it is possible that certain of the untoward effects of digitalis medication may be due to them. At any rate in so far as is possible it would seem advisable to prevent such decomposition, and it is suggested that this might be done by requiring the official galenical preparations to be neutral, and in practice, by prescribing an alkali along with digitalis. Ignoring the specific irritant action of these bodies on the intestinal tract also, it would seem advisable that the drug should be given between, rather than at meals, when the gastric acidity is at the maximum and such a procedure might possibly not cause undue irritation if a large quantity of fluid were taken at the same time.

SOME FACTORS IN THE TREATMENT OF MYOCARDIAL LESIONS *

WILLIAM WATT KERR, M.D.
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SAN FRANCISCO

The difficulty of arriving at a positive conclusion as to the exact nature of the tissue changes existing in the cardiac muscle of patients presenting undoubted evidences of heart disease makes it prudent to discuss the following cases under a clinical title rather than one based on morbid anatomy, for few, if any, can distinguish between the signs of chronic myocarditis and those of degeneration, or can say when the molecular disturbance consequent on febrile or other intoxication ends and the congestion with small-cell infiltration of a myocarditis begins. It is true that the physician draws his own mental picture of the changes in each case, but he will have difficulty in describing it in words that will stand the criticism of his audience.

The teachings of Dr. James MacKenzie and other members of the English school have done much to increase our knowledge regarding diseases of the heart, and have given additional impetus to original research in this particular branch of medicine, but, up to the present time, this advance does not appear to be accompanied by any corresponding progress in methods of treatment. It may be an erroneous impression on my part, but it would appear as if the tendency were to give exclusive attention to remedies which influence the mechanism of the heart and to neglect or to discuss superfically treatment that might alleviate or arrest changes in the cardiac muscle itself. Only too often do cases present themselves in which all treatment seems to have ceased after a successful or unsuccessful effort has been made to whip a heart into compensation by means of some member of the digitalis group, and although in many instances this is the result of the patient ceasing to present himself for advice just so soon as he feels well enough to attend to his daily vocation, nevertheless this would be very greatly modified if from the commencement the patient were made to understand that after his apparent recovery it would be necessary for him to follow certain rules of life or to continue some particular line of medication if he wished to retain his restored health.

My object in considering "some factors in the treatment of myocardial lesions" is to emphasize the benefits that very often accrue from the systematic and persistent use of these remedies, generally described as alteratives, which in some direct, but imperfectly understood manner, influence the nutrition of the myocardium. I have no new agents to suggest; all of them are familiar to every practitioner, but in the majority of books they are mentioned so cursorily in comparison with the prolonged discussions on digitalis, strophanthus and squills that very often their value is underestimated, no fair trial is given them and consequently many cases that would have been benefited by their early and persistent administration are allowed to go along unchecked until the patient becomes a chronic sufferer, to whom death comes as a merciful relief.

When we are brought in contact with a weak myocardium the first endeavor is clearly to depict the case, to decide whether the condition is associated with a valvular lesion, as in combined endocarditis and myocarditis, or if it is secondary to a valvular lesion, as in failed compensation; to satisfy ourselves whether it is due to lack of nutrition, as in aortic and coronary disease and anemia, or is the result of toxins such as we find in influenza, syphilis, uterine fibroids, habitual constipation or disordered metabolism. Is it not possible that, while it is fully realized how much all the organs of the body depend on cardiac efficiency for their functional activity, it is not so constantly borne in mind that disturbance in any part of the body may have a deleterious influence on the heart? I mention this because much of the recent literature on disease of the circulatory system conveys the impression that individual study of diseases of the heart is liable to lead to the same results as specialization in the study of other organs; it narrows the clinical horizon; and while this may not be fraught with much danger to the man who is treating only the organs of special sense, it is absolutely inadmissible to the internist who is dealing with viscera which are so mutually dependent on one another for the normal performance of their functions.

One of the first criticisms that might be made regarding the use of such constitutional remedies as the iodids in the treatment of myocardial disorders is the fact that very frequently their administration is not continued for a sufficient length of time to obtain results. In cases of syphilis the physician does not hesitate to keep his patient taking these remedies for weeks, or, it may be, months, without any interruption; but in the treatment of myocardial inefficiency he very frequently stops after ten days or two weeks because he has not obtained the same brilliant results that so often follow the use of digitalis for the same length of time; he seems to argue that because digitalis often restores compensation in a case of valvular disease within two weeks, therefore, the iodids, if they are going to be of any service, must in the same length of time restore to full activity muscular fibers which have been poisoned and in which the toxic process is still going on; he seems to forget that he is not dealing with a cardiac stimulant, but that some form of malnutrition or imperfect elimination has to be corrected before the muscle can recover so as fully to respond to stimulation, and it is this correction that the iodids accomplish.

The following case was one that impressed me very much with the benefits that may sometimes arise from the prolonged use of iodids:

Case 1.—Mr. A. W. consulted me in August, 1904. For some weeks he had suffered from dyspnea on exertion and hardly a night passed without an attack of cardiac asthma, so that latterly he dreaded going to bed and always slept in an armchair. He was of spare build, had led a good life,

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

smoked not more than five cigars daily, and denied all luetic history. Examination showed the blood-vessels moderately thickened, the area of cardiac dulness normal, sounds weak but otherwise normal, the liver tender and the area of hepatic dulness increased. All other organs were normal. The patient's physician told me that he had already given him, at different times, digitalis, strychnin and nitroglycerin, but without any more than evanescent relief and that the conditions were growing worse. Now he was given proto-iodid of mercury for ten days and then a reliable preparation of digitalis with the idea that the state of the liver had probably prevented its beneficial effects on the former occasion. The patient experienced considerable relief so that he could spend his nights in bed, but his rest was very much disturbed and he was far from well.

About the end of September I discontinued the digitalis, ordered 10 gr. of potassium iodid three times daily, told the patient to continue this for two weeks and then report his progress. On October 3 an accident occurred that completely incapacitated me for work during the next four months, but at the end of that time the patient came to my office, saying that he did not wish to consult me about himself as he was better than he had been for years and his friends remarked on his improved appearance; he only desired to congratulate me on my escape and make sure that I was alive, as he might want me again. In response to an inquiry about his own condition he said that after taking the last medicine, which was the iodid, he came to report according to his instructions but could not see me on account of my sickness; he therefore on his own responsibility continued taking the iodod and was still taking it at that time, from the middle of September, 1904, to February, 1905, and, he added, "Doctor, I never felt better than I do now and I am afraid to stop it." He is now 73 years of age, attends to business regularly and has occasional attacks of cardiac weakness, generally following a cold or some other slight indisposition, but never approaching his former seizures in severity.

Case 2.—Mr. K., aged 58, first consulted me Sept. 7, 1906. He complained of a sensation of oppression over the sternum and pain in the left forearm induced by the least exertion. He had suffered more or less since an attack of influenza five years previously but had been very sick since April 18, 1906, so that he could not walk one block without making some pretext that would enable him to stand still for a few moments. The cardiac apex was in the fifth space, half an inch beyond the nipple line, the mitral sound was impure, a systolic murmur could be heard over the aorta with a spluttering second sound, the blood-vessels were thickened, and an arcus senilis was well marked; the liver was large, distinctly palpable but very slightly tender. There was no luetic history. Already the patient had received nitroglycerin, digitalis and caffein without benefit. At once 10 gr. of potassium iodid three times daily were ordered for him, and every other night he received a pill containing blue mass and rhubarb compound. At the end of five days he said that the pain and oppression were very much less both in frequency and severity, also that he could walk for some distance with ease, and as he lived over one hundred miles from San Francisco and business affairs demanded his presence, he decided to return home and come to San Francisco every few days, making a round trip of over two hundred miles to report his condition. Twelve days later he was very much better, had been absolutely free from pain during the previous week, although he had walked as many as ten blocks without resting, the area of heart dulness had become normal, the sounds were much clearer, and the liver was also improved. October 1 he complained of feeling very much depressed and as he had been taking potash continually for more than three weeks I thought that possibly it might be responsible for those feelings and consequently substituted the proto-iodid of mercury for it, but at the end of ten days he felt just as poorly, and a mixture containing arsenic and nitroglycerin was prescribed. This also failed and he was put back on potassium iodid with such happy results that late in November he started on a pleasure trip through British Columbia and Alaska. He continued taking his iodid all this time and did not discontinue it until the end of April, 1907. He gained 20 pounds in weight.

I did not hear from him again until Sept. 23, 1907, when he came to me from some "springs," where he had been spending a short holiday with friends, who advised him to take a hot mineral bath for the purpose of breaking up a cold; but while in the bath he experienced a sudden onset of severe cardiac oppression which still continued in a milder degree and from which he never fully recovered, although examination did not reveal any change. Under treatment with cardiac stimulants, vasodilators and iodids given at different times he improved so that during the remaining two and a half years of his life he was able to attend to his business and make at least two trips from California to New York and other cities, but he never got back to the buoyant condition of health he enjoyed before taking the hot mineral bath. The last time that I heard from him was late in 1909, when he was having repeated attacks of cardiac asthma, and early in 1910 I was notified that he had died at his own home in the country, but that an autopsy could not be obtained.

Not only must the prolonged administration of these remedies be insisted on, but the dosage has to be taken into consideration in some patients on account of their idiosyncrasy regarding iodids.

Case 3.—The patient, Mr. C., was a man aged 47, with grey hair, weighing 257 pounds. Exertion produced angina pain in the chest and right arm, which was most severe in the right wrist; heart area was increased nearly 1 inch to the left of the nipple line. There were no cardiac murmurs but the aortic sound was accentuated and impure; the liver was large and tender, and there were tender nodes at the level of the fifth and seventh dorsal vertebræ to the right of the spinal column. The patient had been sick for four months before I saw him on Sept. 16, 1907. His diet was restricted and consecutively he received proto-iodid of mercury, arsenic and nitroglycerin, all of which afforded him some, but not very much, relief. November 6 he was given his first dose of iodid which very soon produced iodism and the remedy was discontinued for a few days and then given in a saturated solution with the instructions that he should begin with small doses and gradually increase the amount; but various trials showed his inability to take more than four drops of the saturated solution twice daily without producing coryza and pain in his jaws. This seemed such a useless dose that my inclination was to abandon the use of the drug, but the patient asked permission to continue it, as he felt much better during its administration. In April, 1908, he left San Francisco and returned in the following July when he told me that during his absence he had been a member of a prospecting party, working at an elevation of 4,500 feet, and that he had been able to do chores around the camp and carry buckets of water along the trails without suffering any inconvenience. I saw him last in the end of 1909, when he told me that he had always kept his iodid "on tap" and took it in the same small doses for a few weeks at a time whenever he felt that he was losing ground. I mention this case simply to illustrate the fact that good results may be obtained from the protracted use of small doses when the patient shows an idiosyncrasy regarding the drug, my previous opinion having been that even under such conditions small doses were useless.

In children similar good results follow the prolonged administration of the syrup of the iodid of iron. Among other cases there are two boys, members of different families, who have been under my observation for the last three years with weak heart muscles, so that every few months their hearts would dilate, murmurs of muscular incompetence would develop at the mitral orifice, the patients would be put to bed and kept on different preparations of iron, arsenic and digitalis until compensation was restored, and then after a time history would repeat itself. Since they were given the iodid of iron their condition has improved immensely, in regard both to their hearts and to their general health.

A sufficient number of cases have been mentioned to illustrate the point for which I am contending, but it might be well to mention some features that were common to all of them. They all showed evidences of weak myocardium and hepatic enlargement without signs of local edema or general dropsy; the question of acquired or inherited syphilis was thoroughly exploited with uniformly negative results; improvement took place in the older patients with diseased blood-vessels as well as in the boys whose arteries were healthy; all of them gained weight during the treatment. These facts suggest the thought that the cardiac disturbance was part of a constitutional disorder, and that there was just as little chance of relieving the patients by treatment directed to the heart alone as there would be of curing a diabetic eczema by means of no other agency than a local application.

It is impossible to do more than theorize regarding the *modus operandi* of the iodids because our knowledge of alteratives, the physiology of the lymphatic system and the relation of both to general metabolic processes is still very scanty. It may be that where there is some disturbance of metabolism, resulting either from the introduction of toxins into the body or some other cause, secondary injurious products are formed in amounts which the liver and other glands are incapable of destroying or eliminating, and that the iodids promote their elimination in a manner similar to that in which they eliminate the products of the syphilitic poison. What toxins cause the trouble in these cases it is impossible to say, because, just as specific toxins manifest their affinity for different tissues, it is only natural to conclude that the resulting or secondary toxins will exhibit a corresponding variation; but some recent work in metabolism prompts the suggestion that accumulation of lactic acid in the tissues, either as the result of its excessive production or defective destruction and elimination, is responsible for a considerable proportion of the cases of myocardial distress. The following are the premises on which the hypothesis is based.

TOXIC EFFECT OF LACTIC ACID ON THE HEART

Martin Flack[1] states that "if a frog's ventricle is placed in a weak solution of lactic acid (1 in 10,000 normal saline solution) the contractions become less and less, so that finally the ventricle stops in a state of complete relaxation"; and Bachmann[2] perfused rabbits' hearts with solutions of lactic acid and obtained increased rate with greatly diminished force of contraction and a simultaneous dilatation of the coronary arteries, a fact that would indicate lactic acid to be a paralyzing agent for all muscles of the cardiovascular system; neither did it require a strong solution; but even amounts so small as those occasionally found in the blood of a normal rabbit had some paralyzing effect.

THE SOURCE OF LACTIC ACID IN THE HUMAN BODY

Lactic acid is produced in the human body in the process of metabolism and also as a result of muscular exertion. Ryffel[3] demonstrates conclusively that lactic acid is formed from glucose as well as from other carbohydrates and possibly to a lesser extent from proteids, and quotes Magnus Levy's suggestion that lactic acid may be an intermediate stage in the transformation of carbohydrate to the higher fatty acids, which is known to take place in the body in the formation of fat from carbohydrate. He also mentions the observations of different investigators which tend to show that increased consumption of glucose in muscles is accompanied by a corresponding increase in the formation of lactic acids. This last fact is of interest in relation to the production of lactic acid in muscular tissues as a result of their activity, and especially in connection with the particular organ now under consideration, because, while most observations have been made on the muscles of animals, Prof. Hugh A. Stewart[4] has shown that dextrose is consumed in the human heart. Two and a half hours after the death of a patient he excised the heart and perfused it with a solution of dextrose, with the result that in ten minutes the whole heart was beating strongly; it continued to beat until the perfusion was stopped, more than two hours later, and the washings tested for the amount of dextrose. The analysis showed that the human heart, like that of other animals, is capable of breaking down the dextrose of the perfusing fluid. Locke and Rosenheim,[5] working on the rabbit's isolated heart, had previously shown that the consumption of dextrose depended on some definite relation between the potassium and calcium salts in the perfusing fluid, and concluded that the calcium salt is especially necessary for the conversion of chemical changes into mechanical work.

THE NORMAL FATE OF LACTIC ACID IN THE HUMAN BODY

As lactic acid is a cardiovascular poison normally produced within the body, it is important that we should know how it is destroyed before it is present in such quantity as to produce its toxic effects. Normally the great bulk of lactic acid is destroyed in the tissues by various processes. Embden and Salomon have shown that some of it may be retransformed into glucose by a process of condensation, and, as we have already seen, some of it may become fat. Furthermore, Stoklasa obtained from muscle and blood two anaerobic ferments, one which converted glucose into lactic acid and another which changed the lactic acid into alcohol and carbon dioxid. Lastly, experimentally it was demonstrated that excised "muscle kept in air or nitrogen showed a gradual increase of lactic acid, the rate of which depended on the temperature, until finally irritability was lost, when there was no further increase of lactic acid. If, however, the muscle was kept in oxygen there was practically no such increase at physiologic temperatures, and the loss of irritability was indefinitely postponed." From these and similar observations it was concluded that an adequate supply of oxygen not only prevents the accumulation of lactic acid, but even enables the muscle to destroy preformed lactic acid. This may be due to a direct oxidation of the acid, or it may be the result of the action of the oxygen on the alcohol, which we saw was one of the products of anaerobic fermentation, so that by removal of this product further anaerobic decomposition of the lactic acid is facilitated.

Ryffel settled the question regarding the relation between muscular exertion and the formation of lactic acid in the human subject by observing:

> The lactic acid in urine from competitors in a twenty-four-hour track-walking race was in no case above 6.5 mg. per hour, but found relatively large quantities in that passed after violent exercise—430 mg. after 0.36 mile, 818 mg. after 0.6 mile, running as fast as possible around a track 33 laps to the mile. The lactic acid in the blood, taken from a vein in the forearm immediately after the exercise, was also increased

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[1] Flack, Martin; Advances in Physiology, Longmans, Green & Co., London, 1909.

[2] Bachmann: Zentralbl. f. Physiol., 1907, xx, 801.

[3] Ryffel: Lactic Acid in Metabolism, Quart. Jour. Med., January, 1910, p. 229.

[4] Stewart, H. A.: Jour. Exper. Med., January, 1910.

[5] Locke and Rosenheim: Jour. of Physiol., 1907, xxxvi, 205.

in one case from 12.5 mg. at rest to 70.8 mg. per 100 c.c. Excess of lactic acid disappeared from the urine in about thirty minutes after stopping, but in forty-five minutes the lactic acid of the blood was not quite reduced to normal (15.9 mg. per 100 c.c.).

He concludes that the important factor in the accumulation of lactic acid from muscular work "is the relation between the activity of the muscles and their supply of oxygen."

At rest the muscles are fully supplied with oxygen by the circulation. This is also practically the case with limited activity, but, when the activity is great, the oxygen supply, although increased, is not sufficient to prevent the formation of excess of lactic acid, which makes its way into the blood, and, if in sufficient concentration, is excreted by the kidneys. Lactic acid, moreover, is quickly oxidized by the tissues, so that the return to the normal at rest is fairly rapid, occupying less than one hour after short periods of violent activity.

The importance of this work in relation to myocardial disorders is more fully recognized when we notice the different conditions that may lead to accumulation of lactic acid in the tissues; these are: (1) Increased and *rapid* formation of lactic acid by violent muscular activity; (2) inadequate supply of oxygen to the tissues; (3) absence or diminution of the lactic acid destroying ferment in the tissues; (4) absorption of lactic acid from the alimentary canal; (5) excessive supply of carbohydrate food. Possibly the last three are all closely related because there is experimental evidence to show that lactic acid is both formed and destroyed in the liver, just as in the muscles of the body. We also saw that it might accumulate in the tissues if there were not enough oxygen supplied to facilitate its destruction, and so, in like manner, since the transformation of carbohydrates is a function of the liver cell, it is easy to conceive that as the result of either excessive carbohydrate supply or diminished hepatic activity lactic acid may accumulate during the process of transforming carbohydrates to fat.

The summary of these different observations that I have presented is that, so far as they relate to the heart, the muscles of the whole cardiovascular system are poisoned by a very slight increase in the amount of lactic acid in the tissues; that this excess may be produced by perfectly physiologic processes, such as violent exertion, and when respiration in the same length of time cannot supply an equivalent increase of oxygen for the destruction of the acid, accumulation takes place. Or the excess and accumulation may be due to defective metabolism arising from a variety of causes already mentioned.

These observations show that the myocardial changes found in people who have been subjected to hard muscular exertion, are not necessarily secondary to those found in the coronary circulation, but that both may be due to a common toxin; they indicate where we may look for the cause of the disturbance when treating cases such as those mentioned in an earlier part of this paper; and, lastly, they give us the opportunity of adopting a line of treatment, both medicinal and dietetic, which promises better results than that now generally followed.

I do not wish to be understood as asserting that lactic acid is the only or most active product of metabolism in producing cardiovascular disturbance; my only object was to call attention to the great work that is being done by the physiologic and pathologic chemists to aid us in the treatment of the diseases now under consideration; at present the whole subject, so far as its application to the treatment of heart disease is concerned, is in the embryonic stage, but to me it carries much promise for the future. Everyone engaged in the practice of our profession must at one time or another have felt how eminently unsatisfactory are our present methods of treatment, how, in the majority of cases, our most brilliant results are only temporary improvements and short postponements of the inevitable day, and, as the patient leaves the consulting room, there remains behind him the feeling that we have never really reached a basis on which reasonable hopes for a cure may be established. With a growing knowledge of the chemistry of normal and abnormal metabolism it is probable that much of this will be changed, and that, especially among our younger patients, much will be done to restore a debilitated heart to its full vigor and also to prevent many of the cardio-vascular changes consequent on infections and malnutrition.

Another matter of interest is the use of the calcium salts in the treatment of myocardial weakness during prolonged or severe pyrexia, such as we find in pneumonia or the continued fevers. Early in 1908, Sir Lauder Brunton advised the use of calcium chlorid, in doses of from five to ten grains every four hours, for the purpose of maintaining the heart's action when failure was imminent in an elderly woman who was suffering from an influenza pneumonia. He based the advice on his knowledge that calcium chlorid is a constituent of Ringer's solution, which is used for perfusing isolated hearts during physiologic experiments. Many years ago Dr. Ringer observed that when the frog's heart was perfused with a sodium chlorid solution in distilled water the heart's action was not sustained so long as when the solution was made with water drawn from the ordinary faucet, and on examination found that the latter contains calcium salts, which, of course, were removed during the process of distillation, and since that time it has been generally recognized that the sodium chlorid solution will stimulate the heart to activity, but that the addition of calcium is absolutely necessary if it be desired to continue the contractions for any length of time.

Since that time Locke and Rosenheim, as has already been mentioned, have given the explanation of the phenomenon by showing that in the perfused heart "the consumption of dextrose is dependent on a certain concentration and balance of the calcium and potassium in the perfusion fluid, and they conclude that these salts, more especially calcium, are necessary for the conversion of the chemical changes into mechanical work." During the last three years I have followed Sir Lauder Brunton's suggestions in the treatment of pneumonia and also typhoid fever and have been most favorably impressed with the results, possibly from the fact that the administration of the calcium was commenced early in the course of the disease and continued until the beginning of convalescence with the hope of maintaining the heart's action rather than of reestablishing it when failure had commenced.

I must offer an apology for submitting a line of treatment that at the present time is so problematical. It is true that, like the blind man whose sight was subsequently fully restored, we now see things dimly, "men as trees walking"; but possibly the day is not far distant when we shall have a broader and a fuller vision. At any rate, the object of this paper will be served if it directs the attention of physicians, situated similarly to myself, to the work that is being done in behalf of treatment by those who devote themselves to the elucidation of problems in metabolism; and it may be that the latter gentlemen will be stimulated to further endeavor by the knowledge that their work is appreciated and waited for by the clinician, as well as by the thought that, in the words of Robert Burns, "A chiel's amang you takin' notes, and faith he'll prent 'em."

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ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. SCHMOLL, KERR, HEWLETT AND HALE

Dr. William B. Snow, New York: It seems to me that in the study of cardiovascular derangements it is of first importance to consider the causes and their correction. It cannot be doubted by the clinician that the origin of these troubles is largely toxic. That the conditions originate in the alimentary canal through overfeeding, errors of digestion and an imperfect metabolism—particularly the first—seems to have been demonstrated. In my judgment the study of heart lesions should be along the same lines as the study of so-called rheumatic conditions, recognizing as causes the toxic effects of overfeeding, poor digestion and impaired metabolism. The regulation of diet to the demands of exercise and maintenance of body weight is, therefore, of first importance in their management. Each case is a clinical study in itself: the symptom-complex presenting is rarely the same in all particulars in any two cases. The treatment cannot be limited to the employment of drugs. Dietetic regulation and the employment of physical agents which tend to restore normal functions are always indicated. In my experience I have found no agent so effective in eliminating the various conditions of toxemia as the radiant light bath, or prolonged application of radiant light to the body with the incandescent lamps of high candle-power. The effect of radiant light on metabolism is remarkable in bringing about normal metabolism. As hypertension is more often the cause of arterial degeneration than any other and as hypertension is caused by toxemia, the indications are two: the relief of hypertension and the relief of the cause of hypertension—d'Arsonvalization for the former, and the regulation of the diet with the institution of habits of exercise for the other.

Dr. Boardman Reed, Alhambra, Cal.: I feel that the importance of a thorough study of the drugs we have been having cannot be overrated and yet my experience is that, as practical clinicians, we need to know more about the effect of diet and exercise and baths and all that sort of thing. That is, we can do a good deal more with these hygienic and physical measures than we can with drugs. We cannot know too much about drugs, but we need to know and use more the other line of treatment, according to my own experience. I do not think we realize enough the importance of diet. I fully agree with Dr. Snow in regard to what he said about overeating. I am sure that overeating and overdrinking cause more arteriosclerosis and cardiac affections than any other cause, among Americans, at least. I suppose that among the working-class, syphilis and muscular strain produce as much, but among the middle-class Americans overeating is a chief cause of vascular trouble, and I feel that we cannot emphasize that fact and apply the knowledge too much in our practice.

Dr. Ray Lyman Wilbur, San Francisco: I consider the points that Dr. Schmoll makes in regard to functional testing of the heart, aside from physical findings, well taken. I have seen a number of cases of young girls who had been kept in bed because they apparently had enlarged hearts and cardiac murmurs. They often had deviation in the shape of the thorax and in the position of the diaphragm, and I think they belong to the class of transient murmurs so common in young girls. Friedreich Müller says 30 per cent. of young girls present cardiac murmurs, unassociated with disease processes, and the physician is apt, when finding such a murmur, if nervousness is associated with it, to imagine that the child is in a much worse condition than it really is. I have watched some such patients for a number of years and the cases have all cleared up when there was no previous history of rheumatism. From the standpoint of practical treatment I have had more satisfaction from potassium iodid, as recommended by Dr. Kerr, than from almost anything else administered in various heart conditions, particularly in patients with attacks of acute dyspnea without edema, usually neurotic individuals without a syphilitic history. Whether the administration of potassium iodid has an effect on the thyroid, because of which we get some effect on the heart, I do not know, but I do know that clinically I have found it of great value in the class of cases which Dr. Kerr describes.

THE TREATMENT OF GASTRIC ULCER

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The chief indication in all cases of gastric ulcer is rest and protection of the affected part, but here one is brought face to face with an opposite indication in the necessity of nourishing a patient who has already been brought low by a reduced diet, poor digestion, and hemorrhage.

Which of these indications should receive the greatest consideration must depend on the condition of the individual patient. Herein lies the explanation for a certain number of failures which occur when one follows one of the accepted plans of treatment as outlined by rules and tables. One must be governed by principles rather than rules, and in every instance the patient, as well as the case, must be considered.

When there has been recent hemorrhage the patient should be kept absolutely quiet in bed, not even rising to empty the bowels or bladder. Food by mouth should be reduced to a minimum or absolutely forbidden, according to the severity of the case. Under these circumstances an attempt should be made to nourish the patient by enemas and this method should be followed as long as tolerated. But one should not be misled with regard to the amount of nourishment the patient is receiving. Practically, it is not possible to maintain the patient's nutrition by enemas alone but they are of help in the early stage. The following are examples of some of the nutrient enemas which have been found satisfactory:

	Gm.	Calories
V. Leube—		
Finely scraped meat	50 (1⅔ oz.)	40
Raw pancreas, chopped	50 (1⅔ oz.)	85
Rubbed up with enough water to make	250 (8⅔ oz.)	..
		125
Forscheimer—		
Peptonized milk	200 (7 oz.)	80
Eggs	2	150
Brandy	30 (1 oz.)	100
		330
Eggs	3	225
Milk	300 (10 oz.)	195
Common salt	3 (45 grains)	...
		420
Boas—		
Yolks of two eggs		116
Milk	250 (8⅔ oz.)	160
		276

A method of feeding introduced by Einhorn[1] and termed duodenal alimentation should be mentioned. He uses a long, small, soft rubber tube, having a small metallic capsule at one end. This is passed into the stomach and allowed to remain until the capsule passes into the duodenum. The other end is made fast by means of adhesive plaster or string, and liquid food is introduced directly into the duodenum. The tube is allowed to remain in position for from ten to fourteen days. In Einhorn's hands, this enabled him to feed and maintain the weight of patients who could not otherwise retain food.

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[1] Einhorn: Med. Rec., 1910, lxxviii, 92.

All of the diet-lists given have the common feature of beginning with a minimum quantity of soft or liquid food, gradually increasing over a period of from two to four weeks till the normal quantity is again reached. They all have the disadvantage of being tables; that is, it is naturally suggested that there is some advantage in the particular proportions in which the various substances are given, rather than in the principle on which they are based. Diet-lists are given in every text-book dealing with this subject and need not be repeated here.

The more recent Lenhartz diet is based on the physiologic fact that the stomach, even when empty, is not at rest. Lenhartz thinks it is therefore unnecessary to forbid all food by mouth; on the contrary, since the body has suffered a loss of its protein, the cell-building material, both through insufficient supply and through hemorrhage, it is highly necessary to replace this, and he finds eggs especially suited for this purpose. In addition, egg albumin has the power of combining with a maximum quantity of hydrochloric acid, thus protecting the damaged mucosa from digestion. He objects to the Laube and Penzoldt diets on account of the excessive quantity of fluid they contain.

There has been a warm discussion over the respective merits of the different diets. Some reliable observers report, after the use of the Lenhartz diet, a prompt relief of pain, fewer recurrences of hemorrhages, a gain in weight, and a shorter period of confinement to bed. Others report unfavorable results, no less an authority than Ewald[2] expressing decided disapproval.

If there is no agreement as to details, however, there are certain basic principles so obvious that all acknowledge their importance, and these principles, rather than arbitrary rules, should govern us in selecting a diet, for, after all, unless the diet is adjusted to suit the case rather than the disease, the treatment will be unsatisfactory. All food should be given in a finely divided form, in order to avoid unnecessary mechanical action and possible injury to the ulcerated surface.

Its chemical composition should be such that it does not offer an excessive physiologic stimulus; that is, it should tend to reduce the acidity rather than to increase it. Over this one point there has been much discussion, some arguing in favor of a rich protein diet on the ground that it will neutralize the largest amount of hydrochloric acid, others against protein diet because it is a natural stimulus to the secretion of hydrochloric acid. In fact, it is of more importance in what form the food is given and what particular variety of protein is used. Except when given cold for the purpose of counteracting nausea, the food should be just a degree or two warmer than the body.

It should be of high caloric value; that is, it should be as nutritious as possible, but not bulky, and in order to avoid distention it should be given in small quantities, frequently repeated. Little salt should be used in the preparation of the food or at table, because it acts in two ways to increase the secretion of hydrochloric acid, first, as a condiment and second, by contributing one of the principal elements for its formation.[3]

In the light of these obvious requirements of the damaged stomach, consider for a moment the well-known diets. Leube uses, in the first and second ten-day period, meat broth and bouillon; in the third period, scraped raw ham and half-raw beefsteak, and in the fourth, red roast beef.

Penzoldt used meat broth and bouillon in the first, second and third ten-day periods, and in the third, raw beef-sausage was allowed. Bouillon was allowed in the fourth period. Lenhartz allows raw chopped meat after the sixth day, and raw ham after the tenth day.

Now, it is a well-recognized fact of physiology that meat extract acting through the pyloric glands is a natural physiologic stimulus to the secretion of hydrochloric acid.[4] Raw meat not only contains more extractives but is less easily digested than cooked meat,[5] and has no advantage unless we desire to increase the secretions of the stomach, which is not the case in gastric ulcer. The nutrient value of the meat extract varies greatly, but it is given by Strauss as from 4 to 12 calories per 100 c.c.; while 100 c.c. of milk containing 3⅓ per cent. of cream has 65 calories; the same quantity containing 10 per cent. of cream has 124 calories.

From these facts it is certainly clear that raw meat, especially cured meat such as scraped ham, as well as bouillon, meat broth and rich meat soups, are unsuitable ingredients for diet in cases of gastric ulcer, for here a diet is needed which is easily digested, leaves the stomach promptly, and does not tend to increase the hydrochloric acid.

In this connection it should be remembered that milk, cream, unsalted butter, and olive oil should be used to as great an extent as possible, on account of their higher nutrient value, liquid form and, last but not least, because the fats tend to reduce the acidity. They leave the stomach promptly and tend to reduce the pyloric spasm which is often present when the ulcer is situated in that region.

Therefore, when the feeding by mouth is resumed, the diet should consist of milk with from 3 to 10 per cent. of cream, thoroughly cooked porridge and oatmeal, rice-meal, corn-meal, with milk, cream and sugar added to taste. Raw or very soft boiled eggs, crackers, buttered toast or milk toast to be added later. Puree of peas, potatoes and poached eggs, junket flavored with fruit juices and custards are also suitable.

Malted milk and the various concentrated prepared foods can be added to give variety to the diet. Pea-soup, sago, tapioca, minced chicken, tender fresh fish, brains and sweetbreads should be added later. The quantity taken at one meal should never exceed 250 gm., or 8 ounces. The temperature should not be above 38 or 39 C. (101-102 F.); that is, warm but not hot.

The medical treatment is directed to reducing the acidity, relieving pain and pylorospasm, and possibly toward exerting some direct influence on the ulcer itself. As constipation is usually present, it must be taken into consideration and the treatment modified accordingly.

The alkalies certainly reduce the acidity by combining with the excess of hydrochloric acid. They should therefore be given in large doses about an hour after meals, and repeated if necessary whenever pain occurs. The following prescriptions are used and recommended by men of wide experience:

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[2] Ewald: Deutsch. med. Wchnschr., 1908, ix, 361.

[3] Cohnheim, O.: Die Physiologie des Verdauung und Ernährung, Berlin, 1908, p. 345.

[4] Cohnheim, O.: Die Physiologie des Verdauung und Ernährung, Berlin, 1908, p. 54.

[5] Schmidt, Adolf: Diagnose und Therapie chronischer Diarrhoen, Samml. Zwangl. Abhandlungen a. d. Geb. d. Verdauungs u. Stoffechs-Kr., ii, No. 1, p. 29.

Matthes of Cologne:

℞	Gm. or c.c.		
Infusi radicis rhei	150		℥ v
Sodii bicarbonatis	6		ʒ jss
Olei menthæ piperitæ	3		♏ xlv

Misce S. A teaspoonful twice daily.

Ewald:

℞	Gm. or c.c.		
Magnesiæ ustæ (magnesii oxidi)			
Sodii carbonatis			
Potassii carbonatis āā	5		gr. lxxv
Pulveris radicis rhei	10		ʒ ijss
Sacchari lactis	25		ʒ vi

Misce S. Half a teaspoonful every hour.

The following are intended to relieve both pyloric spasm and hyperacidity:

Elsner:

℞	Gm. or c.c.		
Extracti belladonnæ	0	1	gr. jss
Sodii bicarbonatis			
Magnesii phosphatis āā	10		ʒ ijss

Misce S. A teaspoonful three times a day.

Trousseau:

℞	Gm. or c.c.		
Extracti belladonnæ	3		
Foliorum belladonnæ āā	0	33	gr. v
Extracti gentianæ q. s.			
Fiant pilulæ. No. XXX			

Misce S. One pill before breakfast. Increase slowly to five pills.

Cohnheim:

℞	Gm. or c.c.		
Tincturæ belladonnæ	5		gr. lxxv
Olei amygdalæ dulcis (olei amygdalæ expressi)	30		℥ i
Vittellum ovi unius			
Aquam destillatam ad	200		℥ vi ʒ v
Fiat emulsum			

Misce S. Two teaspoonfuls three times a day.

Cohnheim uses the alkalies as follows: Where there is diarrhea, calcium salts; that is, calcium carbonate and calcium phosphate. Where there is constipation, magnesia usta or magnesia ammonia phosphate. Under normal conditions, sodium phosphate, sodium bicarbonate, and sodium citrate.

For direct effect on the ulcer, bismuth subnitrate and nitrate of silver still hold an important place. Cohnheim uses bismuth subnitrate for chronic ulcers in old people, and nitrate of silver in acute cases as follows:

℞	Gm. or c.c.		
Argenti nitratis	0	5	gr. viii
Aquæ destillatæ	200		gr. viii
	(dark bottle)		

Misce S. One teaspoonful (porcelain spoon), in wine-glass of distilled water, one-fourth or one-half hour before eating.

Dilute solutions of silver nitrate and ferric chlorid have been used to irrigate the stomach with the intention of influencing the ulcer directly. But when it is remembered how soon these solutions become greatly diluted or neutralized, and also that it is never known how near to perforation any ulcer may be, when one considers the distention of the stomach and the retching which frequently occurs while the stomach-tube is being passed, all will agree that this is a method of questionable utility.

External local applications are recommended by practically all authorities; cold in case of hemorrhage and during acute exacerbations, and hot in chronic cases.

All the German specialists recommend and use the balneologic treatment in cases of ulcer. When possible, the patient is sent to one of the well-known watering places, or, if this is for any reason, such as lack of means, impracticable, the waters or salts are used in the home treatment. For robust individuals the Carlsbad water or salts are used, while for those who are thin and anemic, Vichy is recommended. The Germans assert that these waters and salts owe their beneficial effects to their specific action on the glandular tissue of the alimentary tract, while some American writers maintain that the salts simply neutralize the acids present in the stomach.

In addition to these special measures directed to the ulcer, other general treatment should be applied to the constitutional condition. The results obtained by medical treatment vary greatly in different series of statistics collected by different observers. Their value is impaired by the fact that all are not observed for the same length of time, and there are a number of cases in certain series unaccounted for, the termination of which is unknown. The table of results of treatment by various men, the figures for which were collected from various sources, show how widely results of medical treatment differ:

TABLE OF RESULTS OF TREATMENT

Statistics by	Patients No.	Cured %	Improved %	Relapsed %	Died %
Sears	183	22.9	59.0	8.0	7.0
Friedenwald	287	66.0	28.0	....	1.0
Bulstrode	500	....	82.0	40.0	....
Russel	47	42.0	44.7	....	....
Schultze	291	89.0	....	....	....
Subsequently	157	53.0	23.0	15.4	7.0
Lenhartz	...	....	....	....	2.3
V. Leube	...	90.0	6.0	....	2.5
Warren	...	34.0	....	43.0	10.0

Pyloric stenosis, 10 per cent.; carcinomata, 3 per cent.

The mortality is variously estimated (in percentages) as follows:

Musser	8
Regal	from 8 to 10
Lebert	from 8 to 10
Welch	15
Leube	25
Debove and Reynolds	50

Of this last series (Debove and Reynolds), thirteen deaths were due to perforation, five to hemorrhage, twenty to intercurrent tuberculosis, five to inanition, and seven to various causes. These statistics are uniform in one respect: they indicate that at present the result of medical treatment of ulcer of the stomach is decidedly unsatisfactory.

Until the pathogenesis of gastric ulcer is made clear, and a treatment based on etiology is possible, our principal hope for better results must rest on earlier diagnosis. This will be possible when we cease to depend on subjective symptoms for diagnosis and learn to use more universally the tests for occult blood in the feces.

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Hookworm Disease.—In regard to the many bizarre symptoms that have been ascribed to the hookworm, a remark by Dr. Byrd, assistant health officer of Florida, is apropos. "The safest rule to follow is: In all cases of anemia that cannot otherwise be satisfactorily accounted for, examine for hookworms. Don't be thrown off guard looking for dryness of hair and skin, which may be as moist as your own; protrusion of the abdomen, which may be straight as a bean pole; history of ground itch, which you may or may not get; and any other of the hundred-and-one symptoms with which the literature is teeming, but examine the stool at once for eggs and settle this question." And it may be added, after the eggs are found, be sure from blood examination, count of parasites, or improvements of symptoms after treatment that the real trouble is the hookworm before closing the case.—H. J. Nichols in *Medical Record*.

THE DUST MENACE AND MUNICIPAL DISEASES *

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Among the causes of what may not inappropriately be termed municipal diseases infection, irritation and neurovascular tension play a peculiarly predominant part—most of them an obvious part; some, however, are subtle in their workings. To specify three concrete elements corresponding to and mainly responsible for or contributory to these etiologic processes, there are dust, smoke and unnecessary noise; and the one that looms largest in municipal morbidity and mortality is undoubtedly the widespread prevalence of an irritating as well as infecting dust contamination of our city atmosphere. This dust menace and nuisance is preventable, not only in the streets, as is now demonstrated in a few large cities, but likewise in our living and working places, in houses, cars, stores, factories, shops, offices, stations, theaters and churches; in fact, there is a vicious circle here in that street-dust is blown, swept and tracked into habitations, to be swept back into the streets again. Much house-dust pollution would be avoided if the original street-dust were removed or allayed. Says Dr. George A. Soper of New York: "There is something incongruous about a board of health conducting a crusade against smoke and noise and at the same time allowing the streets to be filthy with dust and dirt."

In biographic and occasional references to Benjamin Franklin, it is the usual thing to have pointed out to us his many talents and rare common sense as well as his courageous patriotism and eminent public service. It is, however, perhaps as entertaining and interesting as it is instructive and exemplary to read in the "Autobiography" of his study and efforts relative to dirty, dusty streets in Philadelphia and London, as far back as a century and a half ago. Here as elsewhere does he reveal the master mind in originality and acuity of per-ption, versatility of faculty, and prompt practicality of on. The dust evil was a seriously annoying problem him as a citizen if not as a sanitarian; to him dust was at least noisomely offensive if not infective. He writes of his proposal to Dr. Fothergill of London—whom he commends as "a great promoter of useful projects"—that "for the more effectual cleaning and keeping clean of the streets of London and Westminster," contracts be let to have the dust swept up in dry seasons, especially before the shops and windows of the houses are open, and that the gathered heaps of refuse be carried away in close-covered carts. Could Franklin view the methods and results in London, Toronto, Berlin and some other cities to-day, his only regret might be that it had taken so long to inaugurate the improvement; and that so many cities still drag along, apparently contented and unable to cope with a distressing, dust-polluted atmosphere, even worse than in his own day, by reason of the aggravations of modern speed traffic. He concludes:

> Some may think these trifling matters not worth minding or relating; but when they consider that though dust blown into the eyes of a single person, or into a single shop on a windy day, is but of small importance, yet the great number of the instances in a populous city and its frequent repetitions give it weight and consequence, perhaps they will not censure very severely those who bestow some attention to affairs of this seemingly low nature.

Now that for about seven years street-dust as an element in the propagation of disease, especially in large cities, has received such marked and spreading recognition, the problem of street as well as house cleanliness is a live and urgent one. Modern civilization, being mainly materialistic and commercialistic, is responsible for the creation of a multifarious, mixed, material refuse: street-dust is such a pernicious and persistent menace to the public health because it bodies itself forth as veritable synthetic pulverized poison composed of various more or less palpable particles of mechanical, chemical and bacteriologic substances, both irritating and infecting when inhaled.

As long ago as 1870, Tichborne and Tyndall showed that most of the particles of fine dust suspended in city atmosphere are composed of organic matter, and bacteriology has since shown that the invisible part of visible dust, that is, its germ content, is the dangerous element that calls for a drastic and determined movement for the suppression and removal of the menace everywhere. This applies mainly to cities.

Country road dust is composed principally of ground-up rock and is a comparatively clean dirt, irritating to the mucous membranes but relatively innocuous as to pathogenic organisms. Besides, the task of dust-allaying must obviously for some time to come remain a municipal one, excepting in those suburban and more populous, much-trafficked and prosperous outlying communities where even now many miles of macadamized and Telford roads are oiled, tarred, or sprinkled with water.

Apart, however, from the modicum of mineral dust arising from the wear and tear of street pavements by horse, wagon and railway-car traffic, municipal dust represents the accumulation of débris of various kinds, animal and vegetable, such as dried sputum of human origin, horse and dog droppings and slobberings, dead and disintegrated insects, scattered garbage and house sweepings, loaded vehicle losses, smoke and soot—in short, mainly an organic combination which in warm, wet weather is seething with rottenness; and in dry weather is mostly blown into our houses, noses and clothing by gusty winds, or sucked up as noxious, stifling clouds by motor cars while they speed and trolley cars while they are running or braking for a stop.

To the average pedestrian, dust is hardly more than an annoyance; hence arises the large opportunity and high duty of men in our profession to educate the public to the dangers of dust; to show that it is not simply an irritant to the eyes, nose and throat, but a serious carrier of infection by inhalation and swallowing; that the pus-producing germs, so abundant in such dust, may and do infect and produce purulent conjunctivitis, boils and carbuncles, and the graver purulent catarrhs of the nasal, faucial and bronchial tissues.

That most of the communicable diseases of the respiratory tract are produced and transmitted by dust is doubtless true. For years we have had before us the deadly relation of the dust evil to tuberculosis. Were that the only danger, surely the awful prevalence and mortality-rate of the "great white plague" would alone justify the fight for street cleanliness and a declaration of independence against dust distributers. But when one adds to this the host of other dust-borne diseases, catarrhal, tonsillar, bronchial, influenzal, pneumonic, rheumatic, cutaneous, the need for efficient public service in remedying and removing the evil becomes intensely imperative and the demand inexorable for right results.

Epidemics of purulent catarrh, tonsillitis of severe type, influenza, bronchitis, sore eyes, boils, have fre-

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* Read before the American Climatological Association, Montreal, Canada, June 14, 1911.

quently and commonly been associated with, or have closely followed, prolonged meteorologic periods of dry, gusty weather, when it was too cold to sprinkle the dirty streets properly, or when the city authorities have been too careless in beginning the cleaning and sprinkling of streets early in the season.

Dust particles are necessary nuclei for the formation of fogs (as experimentally shown by Carl Barus) and the suspension of atmospheric moisture; and thus a twofold unhygienic relation of dust should be brought to mind. In the first place, an excessive amount of municipal dust, attracting to itself a corresponding amount of moisture, actually renders the sensible humidity of the city air more unbearable and debilitating generally. Secondly, conceding "that pathogenic organisms are adherent to particles of dust of various kinds, and that their retention of virulence depends on the amount of hygroscopic moisture with which they are associated," as Harrington points out, the more they are protected by such hygroscopic dust particles, the longer they will sustain the viability to which such moisture is essential, especially in warmer temperatures.

It is a needful thing in public health teaching to dispel the notion—the obsession it has almost become—as to "catching cold." Truly, most of the so-called "colds" are dust infections gotten in places where people congregate and traffic circulates freely, as in street cars, theaters, department stores, moving picture shows, halls, etc. As Woods Hutchinson has aptly put it, "colds" might rather be called "fouls." Human agency is principally at fault in polluting the air with disease-bearing dust, and human agency and energy must be solicited and directed to arrest, subdue and prevent its production and propagation. The so-called air-borne diseases of great cities are really synonymous with dust-borne. Instead of bad air in the vague sense, let us speak of dusty air in the definite sense; instead of the Italian malaria, the Greek derivative *konisaria* (*konis,* dust; *aer.* air).

One of the most significant discoveries of recent times in clinical medicine is the not infrequent causative relation of follicular tonsillitis to the early development of rheumatic, endocarditic and pericarditic complications and sequelæ. On first thought it may seem like a startling and incredible statement to make that dust may at times infect the tonsils, and through these portals cause the most serious and malignant involvements of joint and heart structures; and yet sufficient medical literature and my careful study of several cases demonstrate clearly that the links of the pathologic process do connect.

Dust, then, is not by any means or in the main a mere nuisance and source of public discomfort, but perforce a menace and direct public danger of deadly potentiality.

Further still, as a habitually inhaled mechanical and sometimes chemical irritant alone, dust predisposes the upper air passages to later if not occasional associated bacterial implantation because of the production of a catarrhal soil of ready receptivity and decreased local vital resistance; the germs are not only invited, but embraced and encouraged to stay, multiply and penetrate to the innermost portions of a body which is at the same time somewhat generally debilitated and vulnerable. Here again comes forth a vicious circle. The more dusty the air of our cities, and the more consequent catarrhal irritation, the more sputum, and the more people spitting promiscuously in public; and the more people spit the more infectious and dangerous the dust becomes.

The street-cleaning problem cannot be dissociated from the problem of the enforcement of anti-spitting laws. People with nasopharyngeal and bronchial catarrhs must expectorate somewhere; and for many years to come they will do so on our highways. It is practically difficult and a great hindrance to progress in this matter of preventing or lessening expectoration on our streets as long as inadequate and inefficient means and methods of street-cleaning and dust-allaying fail to control or suppress the dust evil.

As the anti-dust campaign, in Philadelphia at least, got its first impetus from the point of view of the prevention of tuberculosis, a special reference to the relation of dust to this widespread disease may be made with propriety. First, the constant inhalation of all kinds of irritating dust makes the invasion of the tubercle bacillus easy. This is well known not only as regards occupational mineral and organic dust, but particularly in respect to municipal street-dust and house-dust of ordinarily constant prevalence. General and local predisposition are coupled in that the environment conduces to the former equally with the latter. Secondly, although less commonly, direct infection with the tubercle bacillus from street-dust may occur from recently expectorated tuberculous sputum that has dried rapidly under a strong wind on a cloudy day; but habitual infections from house-dust are, of course, the usual modes. Thirdly, mixed infections with the common dust germs of pus formation, the staphylococci and streptococci, may occur as well as with the bacilli of pneumonia and influenza. It is to these that we must lay the great burden of the aggravations, complications and fatal terminations of our tuberculous patients. A simple, curable, early case becomes difficult or impossible to jugulate because of a mixed dust infection, and consequent extensive and progressive caseation and cavitation. How many hopeful, more or less curable, tuberculous patients have run a rapidly fatal course because of the daily inhalation of a foul street-dust will never be known.

Says Jacob A. Riis: "All things come to those who wait—and fight for them." The history of the agitation against the dust menace in Philadelphia, and the results obtained there to-day, while yet far from satisfactory, show that educative repetition of the facts and remedies at hand will bring about substantial improvement, and often sooner than expected, a quite rapid progress to still better conditions. In 1903, while president of the Pennsylvania Society for the Prevention of Tuberculosis, I inaugurated a campaign of publicity against the dust evil, particularly as related to the dirty streets and cars. For two years more the attention of the public was called to the dangers of dust, and an endeavor made to have the proper municipal authorities adopt and practice modern means and methods of street-cleaning and dust-allaying. The Philadelphia Rapid Transit Co. (which operates all the trolley-cars in the city) responded to the agitation by abolishing the foul, dusty plush cushions. The city officials were inclined to resent interference with their inertia and indifference, but the criticisms began to tell to the extent that sporadic attempts at better cleaning and sprinkling of streets were made at irregular intervals.

In January, 1909, as chairman of the legislative committee of the society, I took up the work with renewed vigor. Attention was again called to the disease-predisposing and infecting dangers attaching to the actually filthy condition of the streets, and to the stupid, ill-timed, incompetent ways of attempting to clean them; a dry dabbling method of sweeping, in spots at that, with no preliminary thorough sprinkling or flushing of the asphalt pavement, and this done in daytime in the most frequented streets, causing clouds of dust to be raised to annoy and to endanger thousands of pedestrians. Also the heaps of sweepings, even when moist, were allowed to remain for hours and become dried by the sun and the wind, and usually scattered about again by air-gusts and automobiles. Public opinion began to recognize that such slipshod, lackadaisical inefficiency was due to an inexcusable irresponsibility, if not a shameless cupidity on the part of officials and contractors who could thus disregard public health.

Simultaneously I issued circular letters of queries to the mayors of some twenty-five cities of America and Europe as to the methods and results of cleaning, dust-reducing, and keeping clean the streets of their respective jurisdictions. The replies from the principal cities were tabulated and afforded a basis for a comparative study of the situation, and the results were published in the spring months of 1910 in a series of twelve articles in a few of the newspapers of Philadelphia, mostly in the *Public Ledger*. The cities reporting were twenty-one, including Philadelphia, and stated the requirements of ordinances, what was actually done and how, and with what degree of satisfaction and sanitary safety, according to official opinion. To enumerate the cities alphabetically, there were Baltimore, Buffalo, Birmingham (England), Berlin (Germany), Budapest (Hungary), Cleveland, Denver, Detroit, Dublin (Ireland), Leipsic (Germany), London (England), Minneapolis, New Orleans, New York, Paris (France), St. Louis, Stuttgart (Germany), Toronto (Canada), Vienna (Austria), and Washington, D. C. I was able to supplement these reports by personal observation in some of these cities and in Munich, Germany. To summarize:

1. In a majority of the cities where results were satisfactory, the principal cleaning was done at night, or completed before 6 o'clock in the morning.

2. Thorough sprinkling preceded sweeping. Sprinkling was also done two to four times daily in dry (non-freezing) weather to lay prevalent dust.

3. Flushing wagons or flushing from curb to curb with hose is the method used in preference to sprinkling and machine sweeping in the best cleaned cities. Indeed, sprinkling is seldom necessary where the streets are thus virtually washed two or three times weekly.

4. Hand sweeping by blockmen in day-time is always preceded by wetting with a hand sprinkler.

5. Piles of dirt are immediately removed while wet or damp in covered wagons.

6. Last, but by no means least—and the method which in my judgment is destined before long to supersede all others in street cleaning—is the dustless operation of dust and dirt removal by automobile vacuum street-cleaners, on the principle of vacuum housecleaning which is now rapidly taking the place of the old dirty, dust-raising broom and feather-duster. Recent tests of these street machines have developed the fact that in one hour as much surface can be actually cleaned as was imperfectly gone over with dusty accompaniments by horse-drawn sweepers in six hours.

It was pointed out by contrast that in Philadelphia and some other cities it was adding insult to injury to attempt to clean the streets by methods that aggravated instead of mitigated the dust evil, discomfort and danger. Sprinkling before sweeping was specified in contract but never carried out. Hence the criticism was urged that not only better means and methods needed to be adopted, but more systematic and adequate inspection and supervision of the work done and the methods specified, and a more efficient management generally by the city street-cleaning officials, whether the work was done by the government or by contractors. Otherwise, it was futile and farcical to expect a lessening of the menace of dust. The blame for dirty streets should not be placed entirely on the day laborer who may shirk his job. He is only following an example higher up.

The people were appealed to in these articles, and a public protest sought. If they were insistent and persistent in their demands for clean streets, the city government would be equally insistent in its demand on the contractors. The public was reminded that streets are the ventilating flues of cities, and as a result house ventilation depends much on the purity and quality of street air; whereas, dirty, dusty streets become aboveground air sewers instead of pure air channels.

It soon became evident that a dust-infected people was becoming discontented, and that a city healthful was of greater importance than a city beautiful; in fact, that civic cleanliness made for civic beauty and art. Taxpayers began to realize that they were not receiving an equity of public sanitary safety.

Education has been telling, and the street-cleaning authorities have been seeing a great light in Philadelphia. The methods have improved; the work is more efficiently done; flushing wagons have recently been introduced with effectiveness, but of course too few as yet, and capable of attending to no more than a half dozen of the busy down-town streets. A steady, strong fan-shaped column of water is driven laterally by the pressure of a gas-engine on the rear of the wagon so that all débris is flushed into the gutters from the middle and sides of the streets; the wagons are horse-drawn, passing in pairs, one a little in advance of the other; the streams of water being directed in opposite directions.

It is a hopeful sign of the awakening of the public to demands for civic cleanliness, that officialdom is beginning to respond in a readier performance of its duty and responsibility in safeguarding the public health and incidentally safeguarding respect for law, order and government. To avoid an insurrection of the citizenship, there must needs be a resurrection of statesmanship.

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BANTI'S SYMPTOM-COMPLEX

WITH REPORT OF A CASE*

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Patient.—A. H., aged 35, druggist, was admitted to the Englewood Hospital, Nov. 3, 1910. He is a patient of Dr. Charles Piper, through whose kindness I am allowed to study this case.

History.—Sick, or sickly, a good deal; always delicate and pale, but without history of any definite disease until eight years ago, when he contracted syphilis, for which he was treated as well as his rather free habits would permit. Three years ago he consulted Dr. Belfield, who observed the splenomegaly, and advised further energetic antiluetic therapy. The patient used tobacco moderately, and alcohol to excess at intervals; denied any drug addiction.

Examination.—Patient was a thin, icteroid, emaciated, sickly-looking man, with large abdomen, very pale visible mucous membranes and without fever. With all these objective symptoms, he seemed rather optimistic. He complained of great weakness, but no pain, vomiting, nausea, or headache. Appetite was poor; patient had diarrhea for last two or three days before admission; no hemorrhage at any time. Fingers and tongue were tremulous; speech showed some stuttering. Tongue moist, slightly furred; gums pale, yet intact. Pupillary reflexes were negative; patellars exaggerated. Quinquaud's sign present. The lungs, joints, glands and throat were negative. The heart showed a small bruit over the apex; systolic, short, not transmitted to the left; no cardiac hypertrophy, no arrhythmia. Pulse 84, of rather low tension; no basal pulmonary congestion; no edema of the legs. The abdomen was prominent, walls thin; skin smooth, but not discolored. There was a distinct bulging of the left hypochondrium, and moderate prominence of the right upper abdomen. Movable dulness; succussion thrill and ballottement of upper abdominal organs left no doubt as to the presence of a large amount of free fluid in the belly cavity. The spleen was very large, hard, moderately movable and slightly tender; its free border felt distinctly notchy. It extended to a full hand's breadth below the left costal border. The upper splenic border was at its normal level, and the organ showed no sign of ptosis. The liver was distinctly enlarged; its edge was rather dull and a trifle irregular; it was not tender to ordinary pressure. There was no special tenderness over the gall-bladder.

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

The urine showed no bile, no albumin, no sugar; distinct reaction for urobilin.

The blood: reds, 2,100,000; distinct poikilocytosis; no polychromatophilia, no nucleated reds. Hemoglobin, 45 per cent. (Tallquist). Whites: 2,600. Differential: polynuclears 77.8 per cent., small mononuclears 15.7 per cent., large mononuclears 4.5 per cent., eosinophils 2 per cent.

Course.—The patient gradually gained in appetite, strength and appearance. His weight began to improve slowly, hand in hand with the recession of the ascites and the diminution in size of the spleen and liver. Moderate subicterus remained. His progress may be traced graphically in Chart 1. The treatment consisted in mixed mercury and iodid of potassium medication. In April three successive doses of sodium cacodylate were given by intramuscular injection, but this arsenic therapy was abandoned because of the marked intolerance to it. Mr. A. H. had been able to attend to light professional duties and his condition on May 18, 1911, showed the following symptoms: "Subicteric, yet pale, rather thin; tremulous lips and fingers. Eats and sleeps fairly well, but tires easily and lacks ambition. No headache, no eye or ear troubles; no hemorrhages, and no pains. Ascites greatly diminished, liver and spleen just palpable. Urine shows urobilin, no bile, no albumin, no sugar; microscopically negative. Wassermann reaction (Dr. Mefford) positive.

"Blood: reds, 3,600,000; moderate poikilocytosis, no nucleated reds, no polychromatophilia; hemoglobin 90 per cent. (Tallquist). Whites, 5,300. Differential: polynuclears 57.6 per cent., small mononuclears 37.7 per cent., large mononuclears 3.8 per cent., eosinophils 0.9 per cent. No abnormal cells."

Patient was planning how he could earn more money, and a few days later he entered on a new occupation, which required considerable physical and mental exertion. After a week, his condition had aggravated again; a rather severe gastro-enteritis (*Brechdurchfall*) occurred, a slight exacerbation of the icterus without acholic stools, and fever, rather rapid pulse and severe headache. The blood-curves show the deterioration of his hematopoietic system. A few nucleated red blood-cells appeared and the poikilocytosis increased (see Chart 1). Three weeks afterward he was again improving.

INTERPRETATION OF THE ANAMNESTIC, CLINICAL AND HEMATOLOGIC FINDINGS IN THIS CASE

A man who always had been frail and sickly, without any history of purpura or of hemorrhage, contracted syphilis eight years ago and was treated for it in the usual way. His splenomegaly was recognized two years ago (Dr. Belfield). There is no history of any antecedent marked icterus. The patient's habits readily suggested alcoholic cirrhosis as a primary diagnosis, and a cursory physical examination seemed to confirm it. Repeated, careful blood-counts, however, led to further examinations, and to the recognition of a symptom-complex characteristic of splenic anemia.[1] A brief review of the clinical, pathologic and hematologic data of such cases shows at once the scarcity of diagnostic criteria.[2] Yet on serious reflection it seems to me that the splenomegaly is the central figure in the clinical picture of these anemias, and that the name of Banti's symptom-complex fits the disease better, and emphasizes better Banti's splenogenic[3] theory than any other. By this I mean to accept in their widest meaning Dock and Warthin's,[4] and Warthin's[5] finding of phlebosclerosis, and calcareous degeneration of the splenic and portal veins, which they explain as following a primary thrombosis of these blood-vessels. Theirs is the merit to have called attention to the rôle of splenic and portal phlebosclerosis as an etiologic factor in this symptom-complex, but they fail to suggest an antecedent endophlebitis as the initial lesion in this vicious circle. This seems to me more probably the case, since in the first ten days of typhoid fevers there is an almost identical blood-picture with splenomegaly, and some oligocythemia. The early generalized endothelia-cell hyperplasia, according to Mallory one of the characteristics of typhoid fever pathology, accounts for the frequent phlebothromboses occurring in these affections. The toxin-laden venous blood irritates the endothelial cells of the walls of the veins, and thus conduces to thrombosis, venous stasis, passive hyperemia, irritation of the reticulum, or stroma, or both, with subsequent disturbance of the splenic functions. The question as to whether in splenic anemia the plastic or the lytic functions of the spleen[6] are

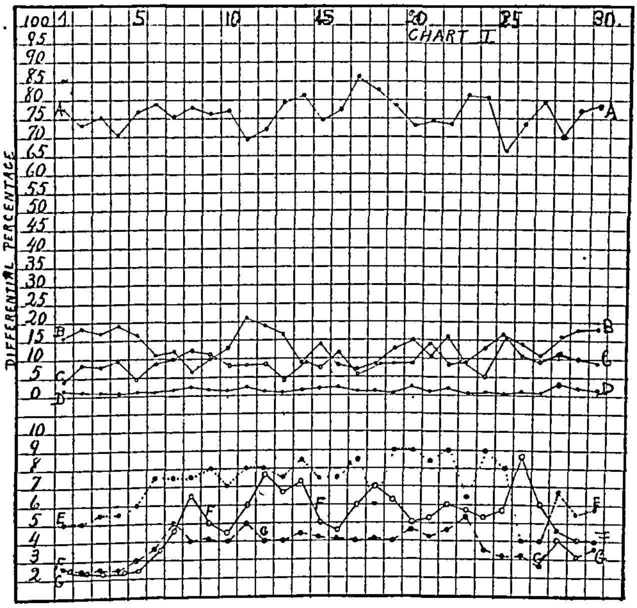

Fig. 1.—Chart showing blood-picture of splenic anemia. Thirty consecutive counts in one case. A indicates polynuclears; B, small mononuclears; C, large mononuclears; D, eosinophils; E, hemoglobin; F, total whites; G, total reds. The column to the left indicates differential percentages. Note (1) the constant parallelism between the curves of hemoglobin, white blood-cells and red blood-cells; (2) the very frequent synchronous movements, and (3) the uniformity of each curve in both charts.

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1. Hunter, W. K.: Infantile Splenic Anemia, Lancet, Jan. 23, 1909, p. 226.
2. Aschenheim, E.: Toxic Hemolytic Icterus with Splenomegaly, Folia hematologia, Berlin, Feb. 28, 1911, xi.
3. Grawitz: In Schwalbe's Lehrbuch der Greisen Krankheiten, Berlin, 1909, p. 144.
4. Dock and Warthin: Am. Jour. Med. Sc., 1904, cxxvii, 24.
5. Warthin, A. S.: Relation of Thrombophlebitis of the Portal and Splenic Veins to Splenic Anemia and Banti's Disease, Internat. Clin., 1910, iv, 188.
6. Arneth, J.: Diagnose und Therapie der Anemien, Würzburg, 1905, p. 113.

individually or jointly involved cannot be settled as yet, but the study of the foregoing shows that the curves of the red blood-corpuscles, of the hemoglobin, and of the total leukocytes show distinctly parallel and mostly synchronous movements. This, I can interpret, not as signs of hematolysis, but of a slow or bradyplastic hematopoiesis, as a disturbance of the entire blood-forming system. The splenomegaly is due to an active irritative inflammation of Malpighian bodies and of the stroma. Bradyhematopoiesis is, in my opinion, the underlying hematologic basis of the Banti symptom-complex. It is sluggish production of blood, due to antecedent impoverishment of the blood-forming tissues, especially of the spleen, that we have to deal with here, not an anhematopoiesis as Auburtin[7] thinks. Splenic anemia is not an objectionable term, Naegeli's[8] and others' opinion notwithstanding; it designates a symptom-complex which is more closely akin to pernicious anemia[9] than to leukemia.

The fact that splenic endophlebitis in my case is of luetic nature, as in that of Willy Schmidt's,[10] or of kala-azar spirochetic origin, as in Marchand's case,[1] should in no way prevent us from considering the splenomegalic anemia as a clinical entity, just as a nephritis retains its identity no matter what its etiology may have been. It is hardly probable that splenic anemia may be a dormant leukemia.[12] On the contrary, I believe it to be the last stage of an extinct leukemia, hence its lack of permanent recuperability, and its striking rarity in children. My charts show that at no time during the course of splenic anemia does the blood become normal in all of its ingredients; either the erythrocytes, leukocytes or the hemoglobin are subnormal, singly or together (see charts). Reasoning *a priori*, Banti's disease must be rare in childhood, on account of the resiliency of the hematopoietic system in children. In fact, Weil and Clerc never saw a case of this in a child.[13] The same hematopathic cause would produce in a child an anemia infantum pseudoleukemica of von Jaksch. If, then, the Banti symptom occurs so rarely or not at all in childhood, it is well to add that a von Jaksch anemia in a child is the equivalent of a splenic anemia in the adult for reasons detailed above. It must, however, be kept in mind that a strict clinical or hematologic separation from another of primary blood-diseases is often impossible. Their relation is often close and plainly evident, as can be seen from the following short classification of the generalized primary affections of the hematopoietic system. These I have divided according to their essential hematology, and subdivided according to their etiology and clinical course.

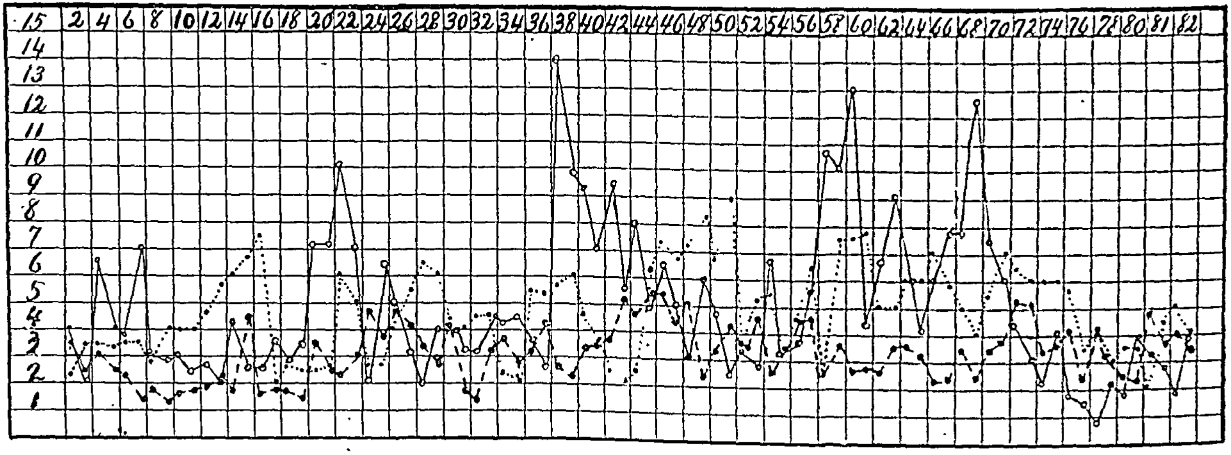

Fig. 2.—Chart showing eighty-two hemoglobin, total red and white counts determined from the literature. Line of small and large solid dots indicates hemoglobin; in percentage units broken line with solid dots, total red blood-cells, in million units; solid line with hollow dots, total white blood-cells, in thousand units. Notice that the blood-picture of Banti's symptom-complex remains pathologic throughout, *in one or more of its ingredients*.

CLASSIFICATION

1. Polycythemias: With splenomegaly.
   Without splenomegaly.
   - *a*. Idiopathic, primary (Vaquez).
   - *b*. Secondary.
2. Anemias.
   - *a*. Idiopathic, primary, essential (Addison).
     Plastic.
     Hyperplastic.
     Aplastic.
   - *b*. Secondary, pernicious, progressive (Biermer).
     Plastic.,
     Hyperplastic.
     Aplastic.
3. Ictero-anemias.
   - *a*. Acquired, hemolytic (Widal).
   - *b*. Congenital (Minkowski-Chauffard).
   - c. Congenital,[14] family-type (Gaucher).
4. Splenic anemias (Griesinger).
   - *a*. Primary, splenomegalic or Banti's disease.
   - *b*. Secondary, splenomegalic, kala-azar malarial, syphilitic, etc.
   - c. Leukanemia (v. Leube), combining the features of pernicious anemia and leukemia, alternately or conjointly.
5. Pseudoleukemias (Cohnheim) or aleukemias.
   - *a*. Anemia infantile, pseudoleukemic (v. Jaksch).
   - *b*. Lymphatic, idiopathic, pseudoleukemia or Hodgkin's disease.
   - *c*. Secondary, tuberculous, lymphatic pseudo-leukemia or Sternberg's disease.

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[7] Auburtin, Charles: Les anémies par anhématopoièse, Semaine méd., March, 1910, p. 337.

[8] Naegeli, O.: Diagnostik des Blutes und der Blut-Krankheiten, 1908, p. 395.

[9] Hill, R. A. P.: Splenic Anemia and Hemochromatosis, St. Barth. Hosp. Rep., London, 1909, liv, 43.

[10] Schmidt, Willy: Banti's Diseases with Heredo-Syphilis, München. med. Wchnschr., March 21, 1911, No. 12.

[11] Masuda, Niro: A Case of Banti's Disease, etc., Med. Klin., Jan. 15, 1911, p. 104.

[12] Hirschfeld, H.: Banti's Disease, Deutsch. Klin., 1909, p. 324.

[13] Weil and Clerc, in Hutinel's Maladies des Enfants, Paris, 1909, p. 411.

[14] Brill, Mandelbaum and Libman: Primary Splenomegaly of the Gaucher Type, Am. Jour. Med. Sc., 1909, cxxxvii, 84.

6. Leukemias (Virchow).
    - *a.* Lymphocytic: Small.
      Large, or Rieder form.
    - *b.* Myelocytic.
    - *c.* Polynuclear.
    - *d.* Mixed.
    - *e.* Chloroma: Lymphocytic.
      Myelocytic.

The above classification of primary blood-diseases is intended to give a general comprehensive view of the generic relationship between all of them. It will also show the central position of splenic anemias, between those primary blood-affections involving the erythrocytes exclusively, mainly or partially, and those involving the leukopoietic tissues, such as the leukemias and pseudoleukemia. It is evident that the spleen plays an active rôle here[15] and not a neutral one. In point of frequency, Banti's disease holds a middle place as can be learned from my statistics, from cases seen in consultation or in my private practice from October, 1904, to June 20, 1911. Of thirty-nine cases of primary hematopathic diseases, there were thirteen of pernicious anemia, eight of splenic anemia, eight of leukemia, six of infantile pseudoleukemic anemia (von Jaksch), two cases of acquired hemolytic icterus, one case of Sternberg "peculiar" lymphatic tubercular pseudoleukemia, and one case of leukanemia. About 20 per cent., or eight out of thirty-nine primary blood-affections in my practice were of the Banti symptom-complex.

Its course is of intermittent character, as first observed by Strumpell.[16]

The diagnosis rests on the presence of the splenomegaly, the anemia with leukopenia, and the ascites. Any case with hematologic findings leaning repeatedly toward leukemia should not be included under splenic anemia. The prognosis as to life in Banti's symptom-complex is fair when the blood-picture occupies and retains its central position, but becomes rapidly bad in the proportion as it recedes from its center to one or the other extreme.

The therapy of splenic anemia, to judge from my case, should be conservative, although Sutherland and Burghard, as well as Banti,[17] were in favor of splenectomy. The undoubtedly generic nature of this symptom-complex calls for further study of the mechanism of the various hematopathic findings. The parallelism and synchronicity of the erythrocytic, leukocytic and hemoglobin curves, the absolute fatality of the disease, the intermittent and very chronic course of the affection argue not for an infectious process, but for a cause organic and anatomic in nature, and of unknown origin.

5037 South Ashland Avenue.

Any Old School Will Do.—The following letter sent to a physician connected with a medical school, was published in the *Rush Alumni Association Bulletin:*

> Dear Sir:—Pleas send me the names of all the medical colleges in Chicago. I am practicing medicine under the twenty year law that is I had been practicing twenty years when the law was passed for all Dr to hold a deploma only those who had been practicing twenty years. it is not necessary that I should have a deploma but still I would like to have one before I die. I feel like I have some money to spair. My home is in .... whar men dont accumulate money very fast.
>
> A deploma from any school will do me for I wont practice mouch more I only want it through curiosity and to take back home with me and I trust that you will let me hear from you and any favor you can show me will be appreciated and well paid for.

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15. Lewis, M. J.: Splenic Anemia, Splenectomy, Recovery, etc., Am. Jour. Med. Sc., August, 1908, p. 157.
16. Mossler: Pseudoleukemia Splenica, in Ziemssen's Handbuch der speziellen Pathologie und Therapie, 1878, viii, 110.
17. Sutherland and Burghard: Treatment of Splenic Anemia by Splenectomy, Proc. Roy. Soc. of Medicine, January, 1911, iv, 58.

THE PATHOGENESIS OF CARDIAC HYPERTROPHY AND MYOCARDITIS *

LEO LOEB, M.D., and MOYER S. FLEISHER, M.D.
ST. LOUIS

In several former papers[1] we described a simple method which permitted us with great certainty to produce a combination of hypertrophic and myocarditic changes within a relatively short time in the heart of the rabbit. At the same time we suggested an explanation of these phenomena without, however, going into any detailed discussion regarding the basis for our theoretical conceptions. Inasmuch as it appears to us that the principle underlying our explanation of the phenomena observed in the rabbit may, perhaps, be extended to the pathology of the heart in man, we believe that a somewhat more detailed discussion of our theory might be of advantage.

The method employed by us in the production of hypertrophic and myocarditic changes in the heart of rabbits was, briefly, as follows: We injected into the ear-vein of a rabbit a single small dose of epinephrin (0.2 c.c.) preceded by spartein sulphate or caffein sodium benzoate. We found macroscopic changes in the heart muscle a few days after the injection, which, however, were most marked ten to fourteen days after the injection. Shortly after the injection slight interstitial edema was found in the heart, and somewhat later the muscle fibers showed slight increase in size. Several days after the injection, the muscle fibers were distinctly increased in size and their nuclei were also larger; the connective tissue between the muscle fibers was increased in quantity.

In the next few days the changes became more pronounced. The separation of the muscle fibers due to edema was now marked. In places we found degenerative changes in the muscle fibers; some of the fibers appeared to have been dissolved, only a thin ring of muscle substance surrounding the nucleus; the striations were now indistinct in the fibers.

About two weeks after the injection the changes had reached their maximum. The connective tissue increase was diffuse. The degenerative changes in the muscle proper had become more extensive. Besides a larger number of the muscle fibers and their nuclei were increased in size, and frequently double nuclei were seen in the muscle cells.

From this period onward the changes became less marked, both macroscopically and microscopically. The hypertrophy of the muscle fibers and muscle nuclei gradually disappeared; the degenerative changes were no longer apparent. Finally, twenty weeks after the injection, small islands of fibrous tissue which had supplanted the degenerated muscle fibers were the only remaining evidences of the hypertrophy of the heart and myocarditis.

The explanation which we offered was based on certain experiments carried out on striated muscle by several investigators.

Ranke,[2] who studied the influence of tetanic contraction on muscles, found that muscles tetanized by either strychnin or a galvanic current showed an increased content of water. This larger percentage of water be considered to be due to increased imbibition and decreased resistance to the passage of water into the muscle. *This change in the water content of the muscle* was supposed to be due to an increase in dissociated products within the cells caused by the activity of the muscle.

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

* From the Department of Pathology of the Barnard Free Skin and Cancer Hospital.

[1] Fleisher and Loeb: Arch. Int. Med., February, 1909; 1910, vi, 427; Centralbl. f. Path., 1909, xx, 104; The Journal A. M. A., 1909, liii, 1561.

[2] Ranke: Tetanus, Leipsic, 1865.

Cooke[3] later found that in tetanized muscles, in muscles fatigued by carrying a load, or even muscles which had been exposed to a single electric shock, the osmotic pressure was increased, such muscles taking up water from a solution hypertonic to normal resting muscles. This author further showed that this increase in osmotic pressure was not due to the electric stimulation as such, nor was the taking up of water due to the stretching of the interstitial spaces.

Fletcher[4] obtained results which, in the main, were similar to those of Cooke. He found that fatigue increased the osmotic pressure of muscles, but his findings differed from those of Cooke, as far as the subsequent curve representing the movement of water into the muscle and the influence of various strengths of solutions on the rate at which fluid was taken up were concerned.

In regard to the principal fact, namely, the taking up of water by fatigued muscles, and in regard to the increased osmotic pressure of fatigued muscles, the three authors mentioned were in agreement. On the basis of these facts and other observations which had proved that the growth of plant cells depends on an increase in turgor, and that also the growth of cells in lower animals depends on an increased taking up of water. J. Loeb[5] explained the hypertrophy of muscles resulting from increased work as due to the taking up of water following catabolic processes in the muscle leading to an increase in osmotic pressure. He also suggested that hypertrophy under pathologic conditions, in which no increased activity had preceded the hypertrophy, might be explained in a similar manner.

We assumed that as a result of the excessive work done by the heart muscle following the injection, the osmotic pressure of the muscle and consequently the movement of water into the muscle fibers was increased. After the period immediately following the injection, the conditions in the experiments performed with striated muscles *in vitro* differ from the conditions prevailing in our experiment. In the former case, the muscle was kept *in vitro* under abnormal conditions and the fatigued muscle no longer performed any work. In our experiments the muscle remained in the body, was perfused with normal blood and continued to perform work. These differences might explain the further changes found in our experiments.

We must assume that the continued work of a muscle that has taken up an abnormal amount of water may lead to further taking up of water and to processes of vacuolization and solution in some muscle fibers. This excessive effect may, therefore, lead to degenerative changes. The primary interstitial edema and perhaps the stretching of connective tissue fibers may lead to the early increase of interstitial tissue, which we found—the later increase in connective tissue being secondary to the parenchymatous changes in the muscle fibers. The increase in connective tissue and consequent shrinking of the fibrous tissue causes pressure on the muscle fibers and may thus lead to secondary parenchymatous changes in the latter.

Before we proceed further, let us consider in what other way it might be possible to explain the facts *observed by us experimentally. First, it might* be assumed that epinephrin causes changes in the heart, not through its action on the heart muscle, but by causing a contraction of the coronary vessels, thus indirectly interfering with the nourishment of the myocardium. Some facts might be cited in favor of such an interpretation. In the first place, it is well known that epinephrin causes a constriction of small arteries. It is also an established fact that a partial or complete occlusion of the coronary vessels produces degenerative and fibrous changes in the heart muscle. Plausible as this explanation may appear, it does not seem to us to be tenable. In the first place, the experimental evidence points very strongly to the conclusion that epinephrin does not cause a constriction of the coronary vessels.

Schaefer,[6] who studied the outflow of blood from the coronaries, was unable to demonstrate any influence of epinephrin on these vessels. Langendorff[7] found that this drug caused dilatation of cut-out strips of the coronary vessels of sheep and his results were confirmed by Pal;[8] DeBonnis and Susanna[9] also confirmed these results. They found dilatation of strips of coronary vessels in the majority of their experiments, in a few experiments, however, no influence of epinephrin being evident. Wiggers,[10] who studied the rate of outflow of blood from the coronaries in the resting heart, concluded that epinephrin caused contraction of the coronary vessels. Bond[11] and Campbell,[12] however, have been unable to demonstrate a constricting influence of this drug on the coronary vessels.

In view of the results of the large majority of these investigators, it is very probable that epinephrin does not cause a constriction of the coronary vessels, and that accordingly, it cannot interfere with the nutrition of the cardiac musculature.

We may, therefore, conclude that epinephrin does not cause a constriction of the coronary vessels, and that there exists no basis for the assumption that epinephrin produces myocarditis through its action on the coronary vessels. There are other facts which likewise seem to us to preclude such an interpretation. In the first place, whenever myocarditic lesions exist as a result of occlusion of the coronaries, the region near the apex is affected much more frequently than the base, while the lesions caused by epinephrin are almost exclusively found at the base of the ventricle.

Furthermore, the character of the lesion does not seem to us to be compatible with such an origin. After an acute occlusion of the coronary arteries infarct-like changes are found; at a later period fibrous tissue takes the place of the injury; while in our experiments the primary changes consisted in an increase in volume of the fibers and in the number of muscle nuclei accompanied by an increase of connective tissue.

A direct toxic action of epinephrin on the heart muscle has also to be considered as a possible explanation, especially as it is very probable that the necroses found in the media of the aorta after numerous injections of epinephrin are due to a direct toxic action on the media of the vessel, and, indeed, one of us[13] upheld such an interpretation on a former occasion. Especially might such an interpretation appeal to us in cases in which, after repeated injections of epinephrin, degenerative changes are found both in the aorta and heart. Here it might be held that a toxic action has been exerted on both organs. Nevertheless, it seems to us that this explanation is not applicable in the case of our experiments, in which, after one single injection of epinephrin, marked changes were found in the heart muscle.

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[3] Cooke: Jour. Physiol. 1898, xxiii, 137.
[4] Fletcher: Jour. Physiol., 1904, xxx, 414.
[5] Loeb, J.: Arch. f. d. ges. Physiol., 1894, 106, 270.

[6] Schaefer: Arch. d. sc. Biol., Suppl. Festschr. f. Pawlow, 1904, 251; Centralbl. f. Physiol., 1904, xviii, 817.
[7] Langendorff: Centralbl. f. Physiol., 1907, xxi, 551.
[8] Pal: Wien. med. Wchnschr., 1909, 109, p. 138.
[9] DeBonnis and Susanna: Centralbl. f. Physiol., 1909, xxxiii, 139.
[10] Wiggers: Am. Jour. Physiol., 1909, xxiv, 391.
[11] Bond: Jour. Exper. Med., 1910, xii, 575.
[12] Campbell: Quart. Jour. Exper. Physiol., 1911, iv, 1.
[13] *Loeb and Githens:* Am. Jour. Med. Sc., 1905, cxxx, 658

Again, the situation of the lesion at a place where the muscle fibers are exposed to the greatest strain after injection of epinephrin, as well as the character of the lesion in which degenerative processes in the parenchyma are not the principal changes, seem to us to make such an explanation unsatisfactory, although we do not wish to exclude a direct toxic action of epinephrin as a contributing factor. It seems to us, therefore, that in the case of the experimental lesions of the rabbit, the theory advanced by us is the most satisfactory.

We conclude, then, that mechanical strain with its physico-chemical sequels is responsible for both the cardiac hypertrophy and myocarditic changes in the rabbit's heart.

Let us now briefly consider how far our observations and theoretical considerations are applicable to certain pathologic conditions found in man. Here, also, we find a combination of hypertrophy of the heart muscle and interstitial changes, especially increase in connective tissue in a similar manner as in the experimental lesions of the rabbit. Sometimes, the hypertrophy represents by far the more important change; at other times, the connective tissue increase is quite marked. Accordingly, these conditions are designated as hypertrophy of the heart muscle and as chronic myocarditis. In most cases, a combination seems to be present, and it is doubtful whether a sharp division between these two conditions can be maintained.

The same combination of changes is found in the experimental lesions of the heart of the rabbit. Here are noted, just as in the human heart, certain nodular areas of connective tissue overgrowth, especially at somewhat later stages, at a time when the acute lesions have retrogressed to a great extent. In the rabbit's heart we find this condition as the result of strain. The same holds good, to a great extent, in the case of the human heart. We find these changes in persons in whom the heart has to do excessive work in order to overcome increased resistance as in cases of valvular lesions, arteriosclerosis, kidney lesions. It is also possible that in cases in which, under the influence of bacterial or non-bacterial poisons, apparently a dilatation of the heart is primary, the subsequent hypertrophic and myocarditic changes owe their origin to the increase in work to which such hearts are subject in consequence of the dilatation.

There exist, however, some differences between the conditions found in the rabbit's heart and in hypertrophy and myocarditis in man. In the former, the parenchymatous degenerative changes in the muscle cells are more prominent than in the latter. This difference is, perhaps, due to the acuteness of the change in the heart and to the excessive strain, extending over a brief period only in the rabbit, while in man the strain is more chronic, extending over a long period and is usually less at any given time. In the latter we might, therefore, expect the hypertrophic and interstitial changes to prevail. We have, however, seen that also in the case of the rabbit the degenerative parenchymatous changes disappear relatively rapidly, leaving merely some fibrous bands. We may, therefore, assume that in man degenerative parenchymatous changes which perhaps existed at given times—and such changes are occasionally found in cases of hypertrophy—will heal within a brief period of time, leaving behind fibrous nodular bands.

Some pathologists ascribe the cardiac hypertrophy proper to the increased strain, while they interpret the interstitial changes as invariably due to the malnutrition of the muscle, caused by partial or complete occlusion of the coronary vessels. We have shown that in the case of the rabbit's heart in which changes are found similar to those in the human heart, the occlusion of the coronary vessels cannot be held responsible for the myocarditic changes. There we have a uniform cause leading to both hypertrophy and myocarditis. It seems to us that these facts suggest a similar uniform pathogenesis in many cases in which hypertrophy of the heart and myocarditis are combined in man. This, of course, does not exclude the possibility that in other cases partial occlusion of the coronary vessels is responsible for myocarditic changes, nor does it exclude the possibility that toxic substances may likewise cause myocarditic changes.

We believe that attention ought to be drawn to the similarity existing between the experimental lesions in the rabbit's heart and a large class of lesions found in the human heart, and that a similar pathogenesis may be suggested for both sets of conditions, the cardiac hypertrophy and the myocarditic changes.

DIFFUSE SEPTIC PERITONITIS FROM APPENDICITIS

STATISTICS OF 194 CASES

RUSSELL S. FOWLER, M.D.
BROOKLYN

To November, 1910, there came under my care 194 patients with diffuse septic peritonitis from appendicitis of whom 138 recovered, a recovery percentage of 71, and fifty-six died, a mortality percentage of 29. In this series there were at times as many as fifteen consecutive cases without a death. All patients were operated on except six who were actually moribund. An attempt has been made through a study of the 188 cases with operations to reach some conclusion as to the value of the different methods of treatment in diffuse septic peritonitis following appendicitis. It is interesting to note that in eighty-three cases in which treatment consisted of the administration of fluids by mouth, saline enemas every three or hour hours, with the Fowler position, sixty patients recovered, a recovery percentage of 72.3, and twenty-three patients died, a mortality percentage of 27.7. In a series of thirty-nine patients treated by the elevated head and trunk position, the administration of fluids by mouth and nothing by rectum, thirty patients recovered, a recovery percentage of 76.9, and nine died, a mortality percentage of 23.1. Combining the statistics in these two series we have a series of 112 cases in which the elevated head and trunk position was used and fluids were given by mouth; eighty-three of the patients received enemas and thirty-nine nothing by rectum. Of these patients thirty-two died, showing a recovery percentage of 72. Comparing these three sets of figures it would seem that the administration of fluids by rectum had little if any influence on the after-course.

water he considered to be due to increased imbibition and decreased resistance to the passage of water into the muscle. This change in the water content of the muscle was supposed to be due to an increase in dissociated products within the cells caused by the activity of the muscle.

Cooke[3] later found that in tetanized muscles, in muscles fatigued by carrying a load, or even muscles which had been exposed to a single electric shock, the osmotic pressure was increased, such muscles taking up water from a solution hypertonic to normal resting muscles. This author further showed that this increase in osmotic pressure was not due to the electric stimulation as such, nor was the taking up of water due to the stretching of the interstitial spaces.

Fletcher[4] obtained results which, in the main, were similar to those of Cooke. He found that fatigue increased the osmotic pressure of muscles, but his findings differed from those of Cooke, as far as the subsequent curve representing the movement of water into the muscle and the influence of various strengths of solutions on the rate at which fluid was taken up were concerned.

In regard to the principal fact, namely, the taking up of water by fatigued muscles, and in regard to the increased osmotic pressure of fatigued muscles, the three authors mentioned were in agreement. On the basis of these facts and other observations which had proved that the growth of plant cells depends on an increase in turgor, and that also the growth of cells in lower animals depends on an increased taking up of water, J. Loeb[5] explained the hypertrophy of muscles resulting from increased work as due to the taking up of water following catabolic processes in the muscle leading to an increase in osmotic pressure. He also suggested that hypertrophy under pathologic conditions, in which no increased activity had preceded the hypertrophy, might be explained in a similar manner.

We assumed that as a result of the excessive work done by the heart muscle following the injection, the osmotic pressure of the muscle and consequently the movement of water into the muscle fibers was increased. After the period immediately following the injection, the conditions in the experiments performed with striated muscles *in vitro* differ from the conditions prevailing in our experiment. In the former case, the muscle was kept *in vitro* under abnormal conditions and the fatigued muscle no longer performed any work. In our experiments the muscle remained in the body, was perfused with normal blood and continued to perform work. These differences might explain the further changes found in our experiments.

We must assume that the continued work of a muscle that has taken up an abnormal amount of water may lead to further taking up of water and to processes of vacuolization and solution in some muscle fibers. This excessive effect may, therefore, lead to degenerative changes. The primary interstitial edema and perhaps the stretching of connective tissue fibers may lead to the early increase of interstitial tissue, which we found—the later increase in connective tissue being secondary to the parenchymatous changes in the muscle fibers. The increase in connective tissue and consequent shrinking of the fibrous tissue causes pressure on the muscle fibers and may thus lead to secondary parenchymatous changes in the latter.

Before we proceed further, let us consider in what other way it might be possible to explain the facts observed by us experimentally. First, it might be assumed that epinephrin causes changes in the heart, not through its action on the heart muscle, but by causing a contraction of the coronary vessels, thus indirectly interfering with the nourishment of the myocardium. Some facts might be cited in favor of such an interpretation. In the first place, it is well known that epinephrin causes a constriction of small arteries. It is also an established fact that a partial or complete occlusion of the coronary vessels produces degenerative and fibrous changes in the heart muscle. Plausible as this explanation may appear, it does not seem to us to be tenable. In the first place, the experimental evidence points very strongly to the conclusion that epinephrin does not cause a constriction of the coronary vessels.

Schaefer,[6] who studied the outflow of blood from the coronaries, was unable to demonstrate any influence of epinephrin on these vessels. Langendorff[7] found that this drug caused dilatation of cut-out strips of the coronary vessels of sheep and his results were confirmed by Pal;[8] DeBonnis and Susanna[9] also confirmed these results. They found dilatation of strips of coronary vessels in the majority of their experiments, in a few experiments, however, no influence of epinephrin being evident. Wiggers,[10] who studied the rate of outflow of blood from the coronaries in the resting heart, concluded that epinephrin caused contraction of the coronary vessels. Bond[11] and Campbell,[12] however, have been unable to demonstrate a constricting influence of this drug on the coronary vessels.

In view of the results of the large majority of these investigators, it is very probable that epinephrin does not cause a constriction of the coronary vessels, and that accordingly, it cannot interfere with the nutrition of the cardiac musculature.

We may, therefore, conclude that epinephrin does not cause a constriction of the coronary vessels, and that there exists no basis for the assumption that epinephrin produces myocarditis through its action on the coronary vessels. There are other facts which likewise seem to us to preclude such an interpretation. In the first place, whenever myocarditic lesions exist as a result of occlusion of the coronaries, the region near the apex is affected much more frequently than the base, while the lesions caused by epinephrin are almost exclusively found at the base of the ventricle.

Furthermore, the character of the lesion does not seem to us to be compatible with such an origin. After an acute occlusion of the coronary arteries infarct-like changes are found; at a later period fibrous tissue takes the place of the injury; while in our experiments the primary changes consisted in an increase in volume of the fibers and in the number of muscle nuclei accompanied by an increase of connective tissue.

A direct toxic action of epinephrin on the heart muscle has also to be considered as a possible explanation, especially as it is very probable that the necroses found in the media of the aorta after numerous injections of epinephrin are due to a direct toxic action on the media of the vessel, and, indeed, one of us[13] upheld such an interpretation on a former occasion. Especially might such an interpretation appeal to us in cases in which, after repeated injections of epinephrin, degenerative changes are found both in the aorta and heart. Here it might be held that a toxic action has been exerted on both organs. Nevertheless, it seems to us that this explanation is not applicable in the case of our experiments, in which, after one single injection of epinephrin, marked changes were found in the heart muscle.

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[3] Cooke: Jour. Physiol. 1898, xxiii, 137.
[4] Fletcher: Jour. Physiol., 1904, xxx, 414.
[5] Loeb, J.: Arch. f. d. ges. Physiol., 1894, 106, 270.
[6] Schaefer: Arch. d. sc. Biol., Suppl. Festschr. f. Pawlow, 1904, 251; Centralbl. f. Physiol., 1904, xviii, 817.
[7] Langendorff: Centralbl. f. Physiol., 1907, xxi, 551.
[8] Pal: Wien. med. Wchnschr., 1909, 109, p. 138.
[9] DeBonnis and Susanna: Centralbl. f. Physiol., 1909, xxxiii, 139.
[10] Wiggers: Am. Jour. Physiol., 1909, xxiv, 391.
[11] Bond: Jour. Exper. Med., 1910, xii, 575.
[12] Campbell: Quart. Jour. Exper. Physiol., 1911, iv, 1.
[13] Loeb and Githens: Am. Jour. Med. Sc., 1905, cxxx, 658

Again, the situation of the lesion at a place where the muscle fibers are exposed to the greatest strain after injection of epinephrin, as well as the character of the lesion in which degenerative processes in the parenchyma are not the principal changes, seem to us to make such an explanation unsatisfactory, although we do not wish to exclude a direct toxic action of epinephrin as a contributing factor. It seems to us, therefore, that in the case of the experimental lesions of the rabbit, the theory advanced by us is the most satisfactory.

We conclude, then, that mechanical strain with its physico-chemical sequels is responsible for both the cardiac hypertrophy and myocarditic changes in the rabbit's heart.

Let us now briefly consider how far our observations and theoretical considerations are applicable to certain pathologic conditions found in man. Here, also, we find a combination of hypertrophy of the heart muscle and interstitial changes, especially increase in connective tissue in a similar manner as in the experimental lesions of the rabbit. Sometimes, the hypertrophy represents by far the more important change; at other times, the connective tissue increase is quite marked. Accordingly, these conditions are designated as hypertrophy of the heart muscle and as chronic myocarditis. In most cases, a combination seems to be present, and it is doubtful whether a sharp division between these two conditions can be maintained.

The same combination of changes is found in the experimental lesions of the heart of the rabbit. Here are noted, just as in the human heart, certain nodular areas of connective tissue overgrowth, especially at somewhat later stages, at a time when the acute lesions have retrogressed to a great extent. In the rabbit's heart we find this condition as the result of strain. The same holds good, to a great extent, in the case of the human heart. We find these changes in persons in whom the heart has to do excessive work in order to overcome increased resistance as in cases of valvular lesions, arteriosclerosis, kidney lesions. It is also possible that in cases in which, under the influence of bacterial or non-bacterial poisons, apparently a dilatation of the heart is primary, the subsequent hypertrophic and myocarditic changes owe their origin to the increase in work to which such hearts are subject in consequence of the dilatation.

There exist, however, some differences between the conditions found in the rabbit's heart and in hypertrophy and myocarditis in man. In the former, the parenchymatous degenerative changes in the muscle cells are more prominent than in the latter. This difference is, perhaps, due to the acuteness of the change in the heart and to the excessive strain, extending over a brief period only in the rabbit, while in man the strain is more chronic, extending over a long period and is usually less at any given time. In the latter we might, therefore, expect the hypertrophic and interstitial changes to prevail. We have, however, seen that also in the case of the rabbit the degenerative parenchymatous changes disappear relatively rapidly, leaving merely some fibrous bands. We may, therefore, assume that in man degenerative parenchymatous changes which perhaps existed at given times—and such changes are occasionally found in cases of hypertrophy—will heal within a brief period of time, leaving behind fibrous nodular bands.

Some pathologists ascribe the cardiac hypertrophy proper to the increased strain, while they interpret the interstitial changes as invariably due to the malnutrition of the muscle, caused by partial or complete occlusion of the coronary vessels. We have shown that in the case of the rabbit's heart in which changes are found similar to those in the human heart, the occlusion of the coronary vessels cannot be held responsible for the myocarditic changes. There we have a uniform cause leading to both hypertrophy and myocarditis. It seems to us that these facts suggest a similar uniform pathogenesis in many cases in which hypertrophy of the heart and myocarditis are combined in man. This, of course, does not exclude the possibility that in other cases partial occlusion of the coronary vessels is responsible for myocarditic changes, nor does it exclude the possibility that toxic substances may likewise cause myocarditic changes.

We believe that attention ought to be drawn to the similarity existing between the experimental lesions in the rabbit's heart and a large class of lesions found in the human heart, and that a similar pathogenesis may be suggested for both sets of conditions, the cardiac hypertrophy and the myocarditic changes.

DIFFUSE SEPTIC PERITONITIS FROM APPENDICITIS

STATISTICS OF 194 CASES

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To November, 1910, there came under my care 194 patients with diffuse septic peritonitis from appendicitis of whom 138 recovered, a recovery percentage of 71, and fifty-six died, a mortality percentage of 29. In this series there were at times as many as fifteen consecutive cases without a death. All patients were operated on except six who were actually moribund. An attempt has been made through a study of the 188 cases with operations to reach some conclusion as to the value of the different methods of treatment in diffuse septic peritonitis following appendicitis. It is interesting to note that in eighty-three cases in which treatment consisted of the administration of fluids by mouth, saline enemas every three or hour hours, with the Fowler position, sixty patients recovered, a recovery percentage of 72.3, and twenty-three patients died, a mortality percentage of 27.7. In a series of thirty-nine patients treated by the elevated head and trunk position, the administration of fluids by mouth and nothing by rectum, thirty patients recovered, a recovery percentage of 76.9, and nine died, a mortality percentage of 23.1. Combining the statistics in these two series we have a series of 112 cases in which the elevated head and trunk position was used and fluids were given by mouth; eighty-three of the patients received enemas and thirty-nine nothing by rectum. Of these patients thirty-two died, showing a recovery percentage of 72. Comparing these three sets of figures it would seem that the administration of fluids by rectum had little if any influence on the after-course.

In fifty-eight cases in which the so-called ideal treatment was employed, that is, the Fowler position, nothing by mouth and Murphy proctoclysis, thirty-nine patients *recovered, a recovery percentage of 65.5, and nineteen* died, a mortality percentage of 34.5. Comparing the cases (in all of which the patients were treated by the elevated head and trunk position) in which nothing was given by mouth and those in which fluids were administered irrespective of what the rectal treatment was, there were seventy-two patients who had nothing by mouth, of whom forty-eight recovered, a recovery percentage of 66⅔, while of 122 patients who were given fluids ninety recovered, a recovery percentage of 73.5.

Statistics, if valuable at all, are only valuable when a large number of cases treated along certain lines are considered. These cases were all cases of diffuse septic peritonitis from appendicitis in which on opening the abdomen there was an immediate spurt of pus under tension, not from a localized abscess, but from a general diffusion of the infected fluid. The patients were sick for variable lengths of time. There is but one certain conclusion that can be drawn from the consideration of these cases, and that is that the mortality is much less than was the case before the elevated head and trunk position was employed. As regards additions to this treatment, such as the withholding of all nourishment by mouth or the giving of saline per rectum, these statistics would seem to show that such additions to the original treatment are immaterial. Yet in spite of this apparently logical conclusion I believe that the ideal treatment, i. e., the Fowler position, the keeping of the *stomach empty by withholding all nourishment, or if* the stomach fills through retroperistalsis, by lavage with siphoning dry of the stomach, and the administration of saline by the Murphy method of proctoclysis, should be carried out in the majority of cases. In addition I would suggest that a culture be taken at each operation and a vaccine be immediately prepared and given. In two cases recently in which this was done both showing infection by colon bacillus the results seemed to be better than in cases not so treated. This, of course, will require further confirmation. It can be stated with certainty, however, that the result does not depend on the treatment, except that the elevated head and trunk posture has proved efficacious, but to a great extent on the virulence of the infection and the period of time it has been at work.

The element of time plays the most important rôle and is the chief reason why statistics vary when apparently the same method of treatment has been carried out, though the virulence of the infection must also be considered.

In this series of 188 cases of operation in which the duration of the attacks was made a matter of record the following table has been compiled showing the recovery percentage in relation to the duration of the attack. The first column of percentages indicates the recovery percentage in all cases up to the end of the period marked in the first column of the table; the second column of percentages shows the recovery percentage for *patients operated on in the period indicated in the first* column of the table, i. e., in the first forty-eight hours, eighty-five patients were operated on, fifteen of these in the first twenty-four-hours period, showing a recovery percentage of over 81, while the omission of these fifteen cases gives a recovery percentage of over 77 for those patients operated on in the second twenty-four hours.

RECOVERY IN CASES CLASSIFIED ACCORDING TO PERIOD OF OPERATION

Period of Operation	Number of Cases	Recovered	Recovery % in All Cases	Recovery % for the Period
24 hours	15	15		100
48 hours	85	69	81+	77+
72 hours	122	96	78+	72+
96 hours	153	117	76+	67+
120 hours	174	126	72+	42+
144 hours	177	128	72+	66+
1 week	181	130	71+	50
8 days	182	131	71+	100
10 days	183	131	71+	0
12 days	184	131	71+	0
2 weeks	187	133	71+	66+
3 weeks	188	133	70+	0

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A SOURCE OF ERROR IN THE TEST FOR OCCULT BLOOD IN THE FECES *

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Since the recognition of the frequent occurrence of duodenal and gastric ulceration and the subsequent change in many of our views concerning what was formerly referred to as "gastric" and "intestinal" indigestion, the test for occult blood in the feces is more commonly used and has proved its value in aiding to differentiate various digestive disorders. Owing to the prevailing custom of using either the turpentine-guaic or the peroxid-of-hydrogen-guaic test for the presence of occult blood, it seems of importance to point out any possible and probable source of error in the interpretation of the color reaction as found in the chemical examination for blood in the feces.

It is well known that the ingestion of bloody meat, of iron as a medicine and of certain starchy foods will sometimes give a slight color reaction when testing for occult blood, but I have never read or heard mentioned a source of error that I recently discovered. During the examination of a patient suspected of having a duodenal ulcer, the patient made the statement that he was passing blood by the bowel. There was but slight evidence of any local bowel irritation and little in the patient's history to point to the presence of a duodenal ulcer. A specimen of the feces was obtained and superficially it did appear that there was blood mixed with the stool. The guaic-turpentine test gave a deep blue color, but a microscopic examination of the liquid feces failed to reveal any blood-cells although the deepness of the color reaction in the chemical test indicated a quantity of blood. A careful microscopic examination of the feces revealed the presence of minute portions of material that resembled blood but which proved to be watermelon pulp.

It then occurred to me that the coloring matter of the melon pulp might give the characteristic chemical test for blood and an experiment proved this to be true. It was also found that the expressed juice of the melon gave a similar color reaction but in the latter experiment the color did not prove to be so dark a blue as when the pulp of the melon was used.

As watermelon is so common an article of food during the heated season, there must be many persons, both invalids as well as healthy individuals, who, if their feces were subjected to a chemical test for blood, would give a definite blue-color reaction because of the coloring matter of this fruit.

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* From the laboratories of the Out-Patient Department, Jefferson Medical College.

DEEP PERINEURAL INJECTIONS OF BETA-EUCAIN SOLUTIONS IN SCIATICA

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It is not my wish, in reporting these few cases, to claim any originality in the treatment of sciatica with beta-eucain solutions, as a complete report of similar cases has been made by D'Orsay Hecht.[1] Also J. Lange[2] reports marvelous results in eleven cases, and it was his method that I followed as closely as possible in the few cases that I have to report. The technic which was used in the first case reported below was used in all the following cases, so I shall avoid repetition.

CASE 1.—Jan. 10, 1906, I was called to J. D., an Austrian laborer, aged 28; he said he had been suffering from sciatica for about six months. When first seen he was unable to walk; he had been bedridden for two months. I had him removed to Trinity Hospital and, with Dr. Arthur Hoyer, who was then intern, injected 100 c.c. of a solution, made by dissolving 2¼ gr. of beta-eucain in 100 c.c. of normal salt solution. The injection was made—after rendering the parts aseptic—at the gluteal fold, midway between the tuberosity of the ischium and the great trochanter, using a large 50 c.c. syringe and a good, stout needle about 3 inches in length. The needle was passed upward and slightly inward, and on depositing a few drops of the solution the parts became deadened to the pain of the needle on its way to the great sciatic nerve. As the point of the needle reached the nerve there was a distinct shudder or twitch of the leg, indicating that we were in the right path, also there was resistance to the point of the needle as it passed through the outer sheath of the nerve. Then we deposited slowly the contents of the syringe, after which we unscrewed the barrel from the needle and, leaving the needle *in situ*, refilled the barrel, attached it again to the needle and deposited the other 50 c.c.

The result was surprising; the patient, who had been in bed for two months, afraid to move for fear of the excruciating pain accompanying motion, rose from the operating table and walked in a sprightly manner from the fifth floor to the third floor of the hospital. He did not go back to bed again but walked around the ward with the other convalescent patients; but after three days he began to complain of pain in the calf of the leg again. Five days after the first treatment, we repeated the treatment with the same good result. He left the hospital a few days after the last treatment and reported to me twice a week for nearly two months. I have seen him at different intervals since and he has had no return of his sciatica.

I have been able to get only five other patients to submit to the treatment, three of whom were cured, or have had no return of sciatica for a year following the treatment, nor up to the present, as far as I know. The two remaining patients were benefited at the time, but would not submit to a second injection. In all the cases here reported the patients had been suffering from one week to six months.

CASE 2.—Adam M., aged 29, tanner, suffering from sciatica for five weeks; two weeks in bed. Feb. 20, 1907, I injected 100 c.c. of beta-eucain solution 1 to 1,000, into great sciatic nerve. Relief was instantaneous and patient got out of bed the same day; relapse set in about two weeks later. I repeated the treatment with resulting cure.

CASE 3.—W. T., colored waiter, aged 48, March 15, 1908, injected 100 c.c. of the solution, as described, into sciatica nerve. The patient was relieved of the pain instantaneously, but did not have the use of the left leg for about three days. After considerable massage he was able to move around. This case alarmed me for a while, as I thought the patient had developed paralysis after the injection. His pain returned when he recovered the use of his leg. I repeated the treatment and while he complained for a time of being "weak" in the left leg, he had no return of the sciatica. I have seen him a number of times since and he has had no trouble with his legs.

CASE 4.—A. G., aged 42, laborer; lived in a very cold house; slept between two feather beds. I was called to this patient Feb. 20, 1910, and found him with an acute case of sciatica. I used the injection on him Feb. 21, and was obliged to repeat at weekly intervals four times before I got a cure. He would get relief for two or three days, but the pain would return. I also had to resort to the hypodermic several times in this case.

CASE 5.—H. H., brewery hand, aged about 40; called at my office, Nov. 20, 1910, with sciatica of two months' standing. I injected 100 c.c. solution beta-eucain; the patient stated that his pain was relieved instantly. He left the office and I have not seen him since; I do not know if he had any return or not.

CASE 6.—P. O., laborer, called at the office, March 16, 1911, suffering from sciatica. I used 100 c.c. beta-eucain solution. He obtained some relief, but returned March 21, saying that he was worse than ever. He refused a second injection and asked for medicine. I gave him aspirin and codein, but have not heard of him since.

I believe, with Dr. M. R. Barker, that sciatica is at first a neuralgia, but later becomes a neuritis, with adhesions between the nerve-sheath and the nerve-substance; this brings about a contraction and thickening of the nerve-sheath; so when a large quantity of solution is forced into the nerve there is an expansion of the sheath and a breaking up of the adhesions. In addition, we have the anesthetic effect of the beta-eucain.

A NEW TONSIL HEMOSTAT

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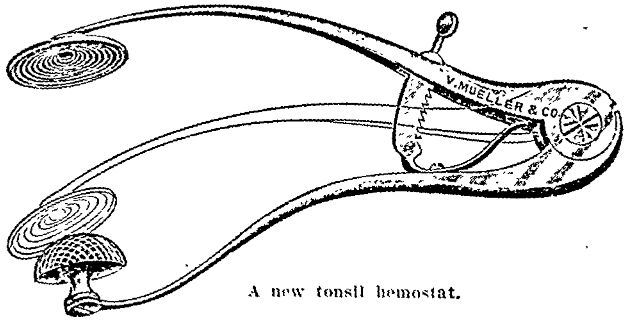
The free hemorrhage that occurs in tonsillectomy under general anesthesia suggests the routine use of mechanical hemostasis, as logically indicated to prevent needless loss of blood in all cases and to secure a nearly bloodless field while the second gland and the adenoid are excised.



A new tonsil hemostat.

The accompanying illustration shows a tonsil hemostat which I have devised and found most satisfactory in every respect after experimenting with several instruments already on the market. This contrivance is best used in pairs, though each instrument is applied on either side of the throat with equal facility. Several layers of gauze are attached to the bulbous extremity of the inner arm; the outside arm carries a disk for counter pressure. The spring ratchet makes adjustment easy for removal or for inserting the instrument, and when both hemostats are in place, excision of the adenoids is not interfered with because the arms are formed to follow the buccal curve. Removal of these instruments one at a time enables the operator to handle any persistent hemorrhage that may follow, by use of long hemostatic forceps for torsion or ligation when needful.

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[1] Hecht, D'Orsay: THE JOURNAL A. M. A., Feb. 6, 1909, p. 444.

[2] Lange, J.: München. med. Wchnschr., Dec. 27, 1904

A NEW CONCEPTION OF IMMUNITY

ITS APPLICATION TO THE CULTIVATION OF PROTOZOA AND BACTERIA FROM THE BLOOD AND TO THERAPEUTIC MEASURES *

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Lysis of protoplasm, either protozoal or bacterial, by the body fluids depends on two substances: (1) amboceptor, which is generally specific, but may sometimes be common, and (2) complement, which is common with reference to antigen, but is more or less specific with reference to the source of amboceptor. This complement in man's serum is more active with specific amboceptors in man's serum than with specific amboceptors in the serum of other animals.

When a foreign protoplasmic substance, protozoal or bacterial, is introduced into the tissues of man, specific amboceptors develop and may be demonstrated in the body fluids, especially in the blood-serum. These amboceptors are capable of dissolving large quantities of the same kind of protoplasm in the presence of sufficient complement, but are inactive in the absence of complement. Amboceptors are not destroyed by moderate heat (56 C) or by considerable age.

Complement acts with specific amboceptors to dissolve and destroy large quantities of protoplasm in the presence of specific amboceptors against the particular protoplasm, but it is inactive in the absence of such amboceptors. Human complement capable of acting with human amboceptor to produce lysis, though generally supposed to require at least moderate heat to inactivate or destroy it, as a matter of fact is destroyed by any temperature above normal body temperature (37 C) and with a rapidity depending on the temperature. A temperature at 40 C. (104 F.) destroys the complement in human serum in from fifteen to thirty minutes, and prevents lysis regardless of the amount of amboceptor employed.

Freshly drawn human blood contains little or no complement capable of acting with human amboceptors, but under favorable conditions it develops at a variable rate and in varying quantities depending especially on the temperature at which the blood is kept. The most favorable temperature is considerably below body temperature. No human specific complement develops at ordinary fever heat, 38 to 40 C. (101 to 104 F.), such as obtains locally and often generally in most inflammations. Bacteriolysis or protozoalysis, by far the most important of the known protective processes of the body fluids of man through which the specific infecting organism should be destroyed, is thus prevented by the local or general temperature regardless of the amount of amboceptor present.

In the event that human complement has developed in a blood (which it does under favorable conditions within a few hours), it increases in amount for a time. Then it again disappears in from thirty to seventy-two hours according to various conditions.

When an individual is infected with the malarial plasmodium, *Spirochæta pallida*, the bacillus of typhoid, etc., his blood soon contains large amounts of amboceptor against the infecting organism. If such blood is drawn and employed as a blood-culture in the usual manner and at a temperature at or below 37 C., complement develops within a few hours and acting with the specific amboceptor destroys the organism and prevents successful cultivation. This is the explanation for the many negative typhoid blood-cultures in the latter part of the disease when much amboceptor is present, while cultures in the first few days are generally successful. This may be obviated to some extent by employing special media like bile, which prevents the development of complement. The same result can be obtained by placing the culture immediately at a temperature that will prevent the formation of complement and yet not high enough to destroy the organism. Theoretically and practically, so far as my experiments indicate, blood-cultures will be positive at any time when the organism is present in the blood.

Applying the principles set forth above I have been able to keep alive and to cultivate without difficulty the three common forms of malarial plasmodia—*Plasmodium vivax*, *Plasmodium malariæ* and *Plasmodium falciparum*. They have been repeatedly transplanted successfully. Up to the present writing, cultures have lived in citrated blood for over two weeks. The viability of my cultures has been confirmed by a number of my confrères here.

It is my opinion that the other blood-inhabiting protozoa and bacteria may be grown without difficulty provided these principles are followed and appropriate technic is employed. In the case of malarial plasmodia a special technic, apparently necessary, is that strict anaerobic conditions must be maintained throughout. This, however, is no doubt essential for the satisfactory cultivation of most pathogenic protozoa. Citrated or defibrinated blood is the most successful medium I have found for the cultivation of malarial parasites.

Applying this theory to therapeutic measures we have reversed conditions and we then desire to favor the formation and activity of complement. We may take as a favorable illustration an ordinary infected abscess. As a result of the bacterial toxin, inflammation ensues with its accompanying hyperemia and swelling due to exudation of serum and usually leukocytes. The latter engulf the bacteria but are unable to destroy them for lack of complement, which cannot develop because of the local elevation of temperature.

Finally, sufficient necrosis occurs to give rise to a macroscopic cavity filled with pus. This may continue to increase in amount and the bacteria live and multiply in it. If such pus is withdrawn and some normal serum rich in complement is added it promptly becomes sterile, provided the matter is in sufficiently fine division so that the complement supplied and amboceptor already present in the pus can reach all the bacteria present. If the pus contains some serum that has recently exuded from the tissues and if it is placed at proper temperature, complement develops and can be demonstrated by appropriate test. If on the other hand the pus has been in the cavity many days and at high temperature it will have passed the age at which it can develop complement under any condition. If such old pus is withdrawn and the cavity allowed to refill with new pus fresh from the living tissues, and provided the temperature is kept below the inactivating temperature for human complement, then large amounts of complement develop and the bacteria are destroyed by the combined action of amboceptor and complement. Such new pus withdrawn and kept at appropriate temperature develops an enormous amount of complement—in fact, much more than would an equal amount of blood—probably because of the increased number of leukocytes, the probable source of complement.

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* Study 3, from the Laboratory of Tropical Medicine and Hygiene, under the direction of Dr. Creighton Wellman, Tulane University of Louisiana.

It should be stated here that complement will develop at quite low temperatures, but that the activity of human amboceptor and complement is much reduced at a temperature of 23 C. (73 F.) or less. Thus the very process it is desired to favor may be materially interfered with by too much cold.

We seem to have herein an explanation for the good derived from cold applications to inflammations, even to the effect of high and incidentally cool climates in tuberculosis of the lungs. The temperature of the diseased foci is lowered by the constant inhalation of cold air.

The possibilities along the lines suggested are so great and the work necessary for the evolution of technic adapted to each of the many problems, both cultural and therapeutic, that will be suggested from time to time and in which this theory plays a part so extensive that one worker will be unable to do any considerable part, and I therefore hope that others will take up this line of experimentation and confirm or contradict the opinions here expressed.

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ABSENCE OF APPENDIX

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NEW YORK

History.—Miss X., aged 22, has for the past three years suffered from attacks of nausea after meals with occasional vomiting spells; at times the nausea has existed irrespective of the ingestion of food. Associated with this condition she has had epigastric pain and obstinate constipation. Menstruation has been painful since its inception. She has been treated for the above conditions by several able physicians who have tried all the usual antidyspeptic remedies without avail. Symptoms and signs included slight epigastric pain on deep pressure; distinct pain over the region of the appendix on pressure. A diagnosis of chronic appendicitis with epigastric symptoms and constipation preponderating.

Operation.—Numerous adhesions in the region of the caput cecum were at once encountered, i. e., between the cecum, colon, and right lateral parietal peritoneum; between the small intestine and the large bowel, especially in the region of the ileocecal juncture. These adhesions extended well up the ascending colon; they were freely broken down, necessitating suture of the intestinal peritoneum at several points. The anterior band of the colon was followed to the usual seat of the appendix, but no appendix was found. The case was thought to be one of unusual location of the organ, or of adhesions hiding it; the search was therefore continued in a most sweeping way, the mesocolon was split, and the retrocolonic space searched for a distance of 4 inches above the caput cecum; the ascending colon and the transverse colon were followed as far as the splenic flexure, the sigmoid flexure was examined, and still no sign of an appendix; there were no diverticula; the right tube and ovary were involved in the adhesions. An hour had passed, and since it was felt that the search had been a complete one, the wound was closed.

For years I have taught that the failure to find the appendix was the fault of the operator, and that a careful search, backed by anatomic knowledge and experience, would in all cases discover it. I still hold that, in the very large majority of cases, this is true. I am constrained to admit that, in this case, however, after many hundreds of operations, I have met with an actual case of congenital absence of the appendix vermiformis. During the operation. I had in mind the possibility of the organ being obliterated by former inflammation causing a fibroid degeneration, and its place taken by cicatrical tissue, a condition sometimes called fibrosis; of this there was no evidence. The operation, to date, has relieved the patient of all of her symptoms. This is no doubt due to the relief of the drag of the adhesions caused by an old perityphlitis.

80 Madison Avenue.

STRANGULATED PEDUNCULATED SUBSEROUS FIBROID COMPLICATING PREGNANCY AT FOUR AND ONE-HALF MONTHS

OPERATION, RECOVERY WITH DELIVERY OF CHILD AT TERM [*]

E. M. LAZARD, M.D.
LOS ANGELES

The coexistence of fibroids of the uterus and pregnancy was formerly considered to be a rarity. By some, the occurrence of fibroids was thought to be an expression of disappointed destiny on the part of the uterus, a morbid activity of a functionally inactive organ. Again, the sterility was looked on as the result of the presence of the fibroids. One author, Carstens,[1] explains the early sterility and late impregnation as being due to a correction of a malposition of the uterus by the developing fibroids, thus allowing conception to take place. The coexistence of these two conditions, fibroids and pregnancy, is not so rare as was formerly supposed, as one finds quite an abundance of these cases reported in the past few years. So, that while functionally inactive uteri may have a greater tendency to fibroid development it would seem that the presence of the fibroid, unless it be of the submucous variety, is not, *per se*, antagonistic to the occurrence of conception. C. P. Noble[2] in an exhaustive article on the complications and degenerations of fibroids with a review of some 7,000 cases, refers to the effect of pregnancy and labor on the tumors, and the possibility of such accidents as "twisted pedicle, necrosis and infection of the tumor," occurring. Mann[3] reports ten cases of pregnancy associated with fibroid and quotes Pinard's report in 1905, of eighty-four fibroids in 13,917 labors and Stratz's report from Schroeder's clinic of 20,000 cases of pregnancy in which there were twelve operated on because of fibroid complication.

In discussing the accidents which might occur in a case of pregnancy and fibroid, Mann says:

> Three conditions must be differentiated: bursting of a pus tube, necrosis of a tumor and twisting of a pedicle. Necrosis generally occurs post abortum or post partum, but occasionally is met with in pregnancy. Twisting of a pedicle of a fibroid is certainly rare and must be extremely so in connection with pregnancy. I have met with two cases of twisting of the pedicle of the fibroid but in neither case was pregnancy possible.

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[*] Read in the Section on Obstetrics and Gynecology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

1. Carstens, J. H.: Fibroid Tumors Complicating Pregnancy. A Short History and Report of All Recorded Cases up to January, 1908, Am. Jour. Obst., March, 1909.

2. Noble, C. P.: Fibroid Tumors of the Uterus, The Journal A. M. A., Dec. 8, 1906, p. 1881.

3. Mann, M. D.: Fibroid Tumors of the Uterus in Pregnancy, Labor and Puerpéral State, Am. Jour. Obst., June, 1907.

Schauta,[4] in a thorough study of the records of his obstetric and gynecologic clinics from 1891 to 1908, reviews some 111,000 cases in which the coexistence of pregnancy and fibroids occurred in the proportion of seven to ten thousand. In 60 per cent. of the cases of advanced pregnancy, the delivery was normal; in only two cases was interference necessary because of mechanical difficulties. From these various reports and from the fact that the vast majority of cases of pregnancy complicated by fibroids go to term without any accident happening so that they remain unrecognized and unreported, it would appear that the existence of the fibroids is not so inimical to conception as has been supposed. The coexistence of the two conditions, therefore, has ceased to be of interest as a pathologic rarity, but has taken on a very great practical interest from the accidents which may occur in these cases during the course of pregnancy, labor and the puerperal period.

The effect of the presence of the fibroids on the course of pregnancy, once it has occurred, varies with the number, kind and location of the fibroids. Submucous fibroids and deep-seated intramural fibroids by their effect on the endometrium may cause early abortion, placenta prævia or adherent placenta. Noble has reported some cases of tubal pregnancy which were apparently caused by a pressure of a fibroid on the opening of the tube, thus preventing the entrance of the ovum into the uterus. The labor and the puerperal period may be very markedly and deleteriously affected by the presence of the tumor. Fibroids in the lower uterine segment or pedunculated growths from the corpus hanging down into the true pelvis may either so obstruct the entrance to the pelvis as to make the delivery mechanically impossible or cause such a malposition of the presenting part as to make it very difficult. Retention of the placenta and post-partum hemorrhage are also much more common than ordinary, the former because of the changes in the endometrium and the latter because of interference with proper contraction and retraction of the uterine muscle by the presence of the fibroid in the uterine wall. The puerperium may also be complicated by the occurrence of necrosis of the fibroid and sepsis due to the pressure to which the tumor has been subjected during the delivery; this being especially liable to occur in those cases in which forceps delivery has been done. Mumford[5] reports a case of post-partum infection of a fibroid with peritonitis and recovery after hysterectomy.

The effects of the pregnancy on the fibroid are usually the cause of operative interference during pregnancy. These tumors rapidly increase in size during pregnancy, the increase being due to actual growth rather than to edema according to Mann; while Schauta and a number of others ascribe the increase in size rather to the edema. By pressure symptoms, these rapidly growing tumors may demand operative interference before the presence of the pregnancy is suspected.

Quite a number of cases are reported in which operation was performed for multiple fibroids and the pregnancy only discovered at the time of operation. An interesting case is reported by Spaeth,[6] who operated with a diagnosis of torsion of a pedunculated tumor and found an interstitial fibroid which had caused a torsion of the pregnant uterus through 180 degrees, the fibroid which was in the right wall of the uterus being found in the left side of the pelvis. Interstitial tumors may, during the course of pregnancy, be extruded from the uterine wall and become subserous. Submucous tumors may be extruded from the uterus and be the cause of abortion. Gangrene of the tumor during pregnancy is caused either by pressure of the developing uterus on an incarcerated tumor with red degeneration of its substance or by direct interference with its blood-supply by torsion of the pedicle. Taylor[7] reports the case of a patient whom he operated on because of constant and increasing pain and from whom he removed a pedunculated fibroid and two sessile subserous tumors. The pregnancy went on to term with normal delivery. The microscopic report of the pedunculated fibroid showed it to be "a necrotic fibro[illegible]"; that the blood-supply had been [illegible]. He states, however, that there was no torsion of the pedicle so that the changes were probably due to the constant and increasing pressure on the tumor itself.

Torsion of the pedicle of a subserous fibroid during pregnancy seems to be exceedingly rare as stated by Mann. In a careful search of all literature at my command, I can only find the report of three cases of this accident, with a possible fourth. This last one is a reference by McMurty,[8] who says, "Subperitoneal fibromyoma which has become pedunculated has been observed with a twisted pedicle and consequent necrosis, as a result of the increased mobility incident to its ascent from the pelvis to the abdomen." As he does not give the case report, it is impossible to state as to whether it is one of the three, the reports of which I have been able to find. The first two cases are referred to by Olshausen and Veit[9] in their text-book on obstetrics, one of which was Cappie's case in which gangrene of the fibroids led to the death of the patient from peritonitis, and Kleinhans' case in which the tumor was removed during pregnancy and the patient recovered and was delivered at term. The third reported case was that of Barrows[10] who in an article on uterine fibroids complicating pregnancy, describes as his tenth case a pedunculated fibroid, twice the size of a fetal head which had crowded the pregnant uterus down into the pelvis and which had numerous adhesions. He operated with a diagnosis of torsion of an ovarian cyst and removed the fibroid which was becoming gangrenous, the circulation having been shut off by two twists in the pedicle. The patient aborted a fifth-month pregnancy two days after the operation and then had an uninterrupted convalescence.

In view of the extreme rarity of this complication as evidenced by the very few cases reported, among the hundreds of operations for the various accidents in which pregnancy and uterine fibroids coexisted, I thought it would be of interest to report in detail the following case o[illegible] [illegible]rsion of a pedunculated subserous [illegible] a four and a half months' pregnancy.

History.—On the morning of April 15, 1910, I was called to see Mrs. G., who gave the following history: She had had the ordinary diseases of childhood. The year before she had been under a doctor's care for what she said was heart trouble. She said her heart beat too many times. She first menstruated at 13 years of age, was always regular, periods recurring every twenty-four days, the flow was scanty, and she had no pain. There never was any intermenstrual bleeding. She had been married five years. She had never used any preventive measures against conception and had never conceived until this time. Her last period had been about Jan. 1, 1910. Since that time she had had the usual symptoms of a beginning pregnancy. About March 1, 1910, she first noticed a lump in the right lower abdomen which could be moved about rather freely. She consulted her women friends, who assured her it was the baby's head, and that it was all right. I afterward learned that she complained of pain in her right side from the beginning of pregnancy. Before she was aware of her pregnant condition she had consulted a doctor who told her she had a "water ball tumor" which should be removed. April 14, 1910, about 2 o'clock a. m., she got up to urinate and was taken with a sudden, severe, sharp pain in the lower right abdomen, which almost caused her to faint. She had to have her husband help her back to bed. She remained in bed all that day and the pain eased considerably, but the following day it was worse again.

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[4] Schauta, F.: Myom und Geburt, Wien. med. Wchnschr., 1909, Nos. 40, 41 and 42.

[5] Mumford, J. G.: Pregnancy, Uterine Myomata and Peritonitis, Boston Med. and Surg. Jour., Aug. 26, 1909.

[6] Spaeth, F.: Myomotomie in der Schwangerschaft, Wegen Achsendrehung des Uterus, Deutsch. med. Wchnschr., March 5, 1908

[7] Taylor, F. E.: A Case of Myomectomy During Pregnancy, Clin. Jour., April 27, 1910.

[8] McMurty, L.: Treatment of Fibroid Tumors of Uterus Complicated by Pregnancy, Surg., Gynec. and Obst., March, 1908.

[9] Olshausen-Veit: Reference to Cases of Cappie and Kleinhans, Text-Book of Obstetrics, p. 600.

[10] Barrows, C. C.: Uterine Fibroids Complicating Pregnancy, Am. Jour. Surg., 1908, xxii, 100.

Examination.—The patient was flat in bed, her temperature 98.6, pulse 115 to 120. On examination of the abdomen the pregnant uterus was felt about three fingers' breadth above the symphysis pubis and deflected somewhat to the left side. On the right side of the abdomen, extending from the pubis to McBurney's point was a well-defined mass, which at first felt like a fetal extremity at term; it had a distinct notch in it. The mass was extremely tender, especially at McBurney's point. On account of the extreme tenderness it could not be distinctly outlined from the uterus. On vaginal examination, the cervix was found softened, the os closed, the uterus enlarged to the size of about four and one-half months' pregnancy; Hegar's and Braxton-Hicks' signs could be elicited. High on the right side of the cervix was felt a sharp edge of a mass. Diagnosis was made of a four and one-half months' pregnancy complicated by either an extra-uterine pregnancy, appendicitis, pus tube, ovarian cyst with torsion of the pedicle or a pedunculated fibroid with torsion of pedicle. Patient was sent to the hospital for further observation and probable operation.

April 15, at 5 p. m. temperature was 99.2, pulse 120. The mass in the right lower abdomen was apparently a trifle larger and considerably more painful; the patient was obliged to sit up in bed with legs drawn up to get any relief from pain.

Diagnosis.—Appendicitis was excluded because of definite outline and firm consistency of the mass, of its having been freely movable during first two months of pregnancy and because of a lack of previous symptoms which would indicate appendicular trouble. Pus tube was also excluded because of distinct outline of tumor, its density and previous mobility; extra-uterine pregnancy was also excluded for the same reasons and because of term of pregnancy, four and one-half months, rupture would probably have taken place earlier, besides which normal pregnancy was unquestionably present. Probable diagnosis made of a strangulated pedunculated extra-uterine tumor complicating pregnancy. As to the nature of the tumor, subserous pedunculated fibroid was not considered probable because of absence of previous symptoms of fibroids and because of rarity of these tumors giving trouble of this kind during pregnancy. It was thought that the tumor was an ovarian cyst with a torsion of the pedicle because of previous physical signs and also because of diagnosis of the doctor who saw her two months previously. Operation was urged because of undoubted symptoms of strangulation. Dr. W. W. Richardson was called in consultation and agreed with the diagnosis of extra-uterine tumor and concurred as to the advisability of operation. It was decided to wait until the next day as the family was averse to operative interference. April 16, 1910, condition remained about the same as the previous day, the pain possibly being somewhat increased. The patient and family were again urged as to the necessity of the operation and at their request Dr. E. C. Moore was called in consultation. He agreed with the probable diagnosis of ovarian cyst with torsion of the pedicle. Operation was consented to and was performed at 2 p. m., April 16, 1910.

Operation.—With the patient under anesthesia the tumor mass could be definitely separated from the pregnant uterus. Incision was made in the median line of the abdomen. After opening the abdomen the hand was passed down to the tumor which felt very much of the size and shape and consistency of a kidney. The tumor which had no adhesions and was freely movable in the abdomen was easily delivered out of the wound and found to be a pedunculated, subserous fibroid with torsion of the pedicle. The pedicle was attached to the right lateral wall of the pregnant uterus and was a narrow, long strand of tissue, which was twisted on itself to the size of small twine. The tumor was quite dark in appearance. A catgut suture was passed through and around the pedicle and the tumor was removed. The stump of the pedicle was sewed over with catgut. A small interstitial fibroid about the size of a quarter was found in the anterior wall of the uterus between the tubal insertions. The tumor did not project beyond the surface of the uterus and as it was in a place where it would do no harm during pregnancy and labor and as its removal might cause an abortion, it was not disturbed. The abdomen was closed with a continuous catgut suture of the peritoneum; figure-of-eight silkworm-gut sutures through skin, fascia and muscle; a continuous catgut (No. 2 doubled) approximation of fascia; and a few silkworm-gut approximation sutures of the skin. Time of operation, forty minutes.

May 1, 1910: The convalescence was uneventful, except for a high pulse, 90 to 110, which continued up to the time of her discharge from the hospital. On the fourth day after operation, April 20, the patient felt fetal movements for the first time. The sutures were removed on the tenth day, the wound showing primary union throughout.

Course of Pregnancy and Labor.—The patient was fitted with an abdominal supporter. Throughout the course of pregnancy the patient was very nervous, the pulse remaining constantly from 90 to 100, there was a mitral regurgitant murmur at the apex of the heart, a distinct enlargement of the thyroid gland with other symptoms of hyperthyroidism. The small fibroid increased considerably in size and projected from the surface of the uterus immediately under the cicatrix to such an extent as to be discovered by the patient herself. The cicatrix remained firm but widened somewhat with the advance of pregnancy and became deeply pigmented throughout its course. The urine showed a trace of sugar throughout pregnancy.

Sept. 9, 1910, 6 p. m. the patient started in labor, the second stage beginning about 2 a. m. September 10; at 5 a. m. the pains were recurring about every three minutes and were good uterine contractions. As the patient was very nervous and would not help, the pains were ineffective and there had been no advance for about two hours. Median forceps were applied and a male child delivered without any difficulty. The child was in good condition. Delivery of the placenta occurred one-half hour later and the uterine contraction was good. There was no postpartum hemorrhage. The puerperal period was uneventful. The involution of the uterus was good and at the examination some four weeks after delivery, the small fibroid in the anterior wall of the uterus was not palpable.

611 Lissner Building.

ABSTRACT OF DISCUSSION

Dr. J. S. Baer, Camden, N. J.: I have never had experience with cases of torsion of the pedicle of a fibroid, but I can recall five cases of fibroid tumor complicating pregnancy, and I was especially interested in the conclusion of the paper showing that this tumor had apparently atrophied. In the five cases I speak of there was some difficulty in the delivery. Each case became a forceps case and in each the tumor was not to be distinguished a year afterwards. I want to congratulate Dr. Lazard on the outcome of his case and on the excellence of his report of it. I had another case of fibroid in the posterior wall of the uterus low down in a pregnant woman at term in which a Cesarean section was necessary to deliver the child. I cannot tell anything about the outcome of that tumor because the patient died from pneumonia in about six days, but the child is still living. It has been my experience that all these patients bleed more than usual during delivery.

Therapeutics

ANESTHESIA AND ANESTHETICS

While narcotics have been used from very ancient times, the production of complete unconsciousness for surgical or other procedures is of comparatively recent date.

The properties of many anesthetics, even those now most commonly used, were academically known long before their practical use was demonstrated. Over half a century elapsed between Sir Humphrey Davy's suggestion (1798) that nitrous oxid gas be used to control pain during surgical operations and Horace Wells' demonstration (1844) of its use in dentistry. The exhilarating and anesthetic properties of sulphuric ether were matters of common knowledge long before the public demonstration of their surgical application by Morton and Jackson at the Massachusetts General Hospital in 1846, and even before its tardily recorded use in surgery by Long, of Georgia, in 1842. By 1847 ether was used for surgical anesthetization throughout the civilized world. The anesthetic properties of chloroform, discovered in 1831, seem to have escaped attention until 1847, when J. Y. Simpson, of Edinburgh, used it in operations and introduced it to the profession. Chloroform soon, doubtless on account of its more readily producing anesthesia, more swiftly and with a smaller amount of the drug, became the most generally used anesthetic throughout Europe, and it was used more frequently than ether up to twenty years ago, when ether began to displace chloroform on account of the number of deaths which occurred under chloroform anesthesia.

From the time of the discovery of ether and chloroform, various other preparations and mixtures have been used. Some have been used and recommended; some fell into immediate disuse, while others retained for a shorter or longer time a certain amount of popularity. Nitrous oxid gas, soon after its anesthetic properties were declared by Horace Wells, became more and more popular and more and more generally used for short surgical operations and by all dentists for the extraction of teeth.

With our present knowledge of practical anesthesia, it is not justifiable to depend on any one anesthetic exclusively. The safest anesthetic for a given patient must be decided by the physician in charge, but as a general rule it may be declared that nitrous oxid should be used only for very short operations; that in general ether is a safer anesthetic than chloroform, but that the safety of any anesthetic lies largely with the skill of the anesthetizer. It should also be remembered that some individuals are more shocked by observing even a minor operation under a local anesthetic than they are by the administration of an anesthetic, while with others it may be the reverse. There can be no question that under general anesthesia the surgeon and his assistants are not hurried and undoubtedly do more careful work, especially in preparing and arranging the tissues for the most perfect possible healing. On the other hand, it has now long been demonstrated that even one simple etherization carries with it a certain amount of shock and a certain amount of disturbance, more or less serious, of the internal organs, especially the heart and kidneys. Therefore, repeated anesthetizations, even with ether, are to be deplored, unless such anesthesias are widely separated by time. Also, there is no question that after an anesthesia the patient is in more danger of outside infection as well as from auto-infection, perhaps, from the part that is diseased.

Ether and chloroform seem to produce anesthesia by their action on the central nervous system, somewhat similarly to the action of alcohol. Briefly, they cause a progressive paresis from the highest nerve centers of the brain to the spinal cord centers or reflex centers, to finally the medullary centers, the vital centers. While in general the reflex centers of the genital region and rectum and eye reflexes are the last to become paralyzed in complete anesthesia, it will often be found that the part of the body which is to be operated on, or the part of the body on which the patient had his mind fixed before he was anesthetized, is the part which is the longest sensitive to pain.

It has been asserted that anesthesia is caused by a solution of the fatty constituents of the nerve cells. All fatty solvents seem to be anesthetic if they enter the cell, and the anesthetic power has seemed to be proportional to their ability to dissolve fat. It requires a certain amount of a solvent of the anesthetic in the blood-serum to affect nerve cells in this way, and this varies with the temperature of the animal and of the blood. The concentration of ether in serum necessary for complete anesthesia has been shown to be 1 part to 400, and of chloroform 1 part to 5,000 or 6,000. It has been thought that the rapid recovery which occurs when the anesthetic is removed shows that the fatty constituents are not taken out of the cell, but merely dissolved within it.

Almost all anesthetics are more soluble in lecithin and cholesterin than in water. This is suggested as the reason that the drug accumulates in the nerve cells. As chloroform has a greater ability to combine with lecithin and cholesterin, it thus becomes the stronger anesthetic. By the same action ether and chloroform may combine with the lecithin and cholesterin of the red blood-cells as well as of the nerve cells. This combination with the blood-cell constituents and the nerve constituents also must be very weak; as soon as the ether or chloroform vapor in the lungs is diminished and the anesthetic stopped, the drug immediately begins to excrete from the blood into the alveolar spaces and is exhaled.

AETHER, U. S. P.

Genitive, Aetheris

Description.—Ether $(C_2H_5)_2O$, is a clear, colorless liquid with a specific gravity of about 0.72. It is volatile and inflammable, and, when its vapor is mixed with air, is explosive. It has a sweetish taste and odor.

Local Action.—When it is poured on the skin a sensation of cold is produced by its evaporation, and if this action is produced or hastened, as by an atomizer, the surface may be frozen. If, however, the vapor is prevented from escaping, irritation results, and even vesication may be caused. The vapor of ether is slightly irritant to the conjunctivæ and to mucous membranes.

Systemic Action.—When taken internally it causes transient stimulation of the central nervous system and of the heart. The primary action is not dissimilar to that of alcohol. Its progressive action on the nervous system is to cause paralysis, first of the higher centers, then the spinal cord, and last the medullary centers. Such action, however, is not quite uniform, and it should be remembered that in profound anesthesia the last reflexes to disappear are of the rectum, genital organs and cornea.

The respiratory center is affected both directly and indirectly. At first, owing to the irritation of the mucous membranes of the nose and throat, there is a reflex slowing and occasionally a temporary inhibition of respiration. This may be accompanied by a spasm of the glottis. Such a disturbance need not be caused if the anesthetic is given slowly. Soon, if the anesthesia is forced, or gradually when it is given carefully, the nerves of the throat become numb and the respiration then becomes regular and slower. In other words, the struggling, gasping, and irregular respiration can generally be avoided by the proper administration of the anesthetic. If the operation is prolonged, and with some patients even with a small amount of ether, the respiratory center becomes depressed, the respirations more and more shallow and slower and slower until death may occur by failure of the respiratory center.

Circulation.—The effect on the circulation caused by inhalations of ether is greatly modified by the action of the ether on the respiratory center. In other words, the heart may be very quickly much disturbed, if the respiration is disturbed. If the respiration is regular, the heart is for some time not much disturbed. From irritation of the throat and nostrils the heart may be, at first, reflexly slowed until the irritability of these nerves is dulled. If there is cerebral excitement or nervous excitation the heart becomes more rapid. It also becomes more rapid if there is sudden peripheral dilatation of the arterioles. Soon, however, as the surgical degree of the anesthesia is reached, the heart slows and the pulse becomes full and regular, and remains so throughout the anesthesia, unless a condition of shock occurs. In this condition the surface of the body becomes pale, heat is rapidly lost, more or less vasodilatation and paralysis occurs, the heart becomes rapid and may suddenly fail. In too profound anesthesia, or in insufficient anesthesia when sudden pain may cause pneumogastric inhibition, or in diseased heart conditions, such as chronic myocarditis or when there is disease of the coronary arteries, sudden heart death may occur during ether. Theoretically, however, in normal conditions, ether should give its notice of dangerous paralysis developing by primary impairment of the function of the respiratory center.

In circulatory weakness during anesthesia treatment of the vasomotor paresis is just as important as is the treatment of the weakness of the heart muscle, or even more so.

Throughout the ether anesthesia there is a gradual vasomotor paralysis. The more prolonged the anesthesia, the more the vasomotor weakness. There may be also a slight destruction of red blood-cells. In other words, etherization can never be anything but a circulatory depressant.

The blood-pressure may rise for a short time under ether narcosis, but such a rise is short-lived, and it should be remembered that although with each additional whiff of fresh ether the pulse may improve, the more ether that is administered and the longer it is given, the greater must be and will be the circulatory depression after the anesthesia is over; in other words, the greater the shock.

Pupillary Changes.—The pupils are first dilated under etherization and then contracted, and should remain more or less contracted during narcosis. When the eyelid is raised, if they are slightly dilated, they should quickly contract by light. If they do not so contract, the dilatation of paralysis has occurred, which is a danger signal, indicating that, ordinarily, the anesthesia is too profound.

Alimentary Canal and Respiratory Tract.—The only action on the alimentary canal and respiratory tract when ether is given by inhalation is that of slight irritation. Its irritant action may cause a profuse pouring out of bronchial mucus, and, when swallowed into the stomach mixed with saliva and mucus, it causes nausea and vomiting.

Kidneys.—Ether is always slightly irritant to normal kidneys, and may frequently cause an albuminuria. It is, however, dangerously irritant when there is an acute inflammatory condition of the kidneys, and may cause serious trouble when there is chronic inflammation of the kidneys.

Although the skin generally feels hot during ether anesthesia, the actual temperature falls, doubtless owing to a dilatation of the peripheral blood-vessels, causing not only more or less sweating and therefore a greater evaporation, but also a greater radiation of heat. In other words, heat is lost and the temperature falls during etherization. This makes the heated operating-room a necessity. Also, if the ether vapor is mixed with warm air it is less likely to cause an inflammation of the lungs or a pneumonia.

When ether is administered by inhalation, the absorption takes place mostly from the lungs. On the other hand, while it has been thought that some may be excreted into the stomach, it is probably almost entirely also excreted by the lungs. When ether is taken into the stomach and absorbed there, it also is excreted by the lungs.

Ether anesthetization may profoundly affect metabolism, disturbing the digestive system, increasing the nitrogen output but diminishing normal oxidation. It may cause an increase of the glycogen in the blood, but is not so likely to do so as is chloroform. It may so disturb the liver that bile may be found in the urine, but this also is not so likely as from chloroform. It seems, however, to be a fact that whether anesthesia is produced by ether or chloroform, the ability of the system to protect itself against invasion of germs is diminished for a shorter or longer time. In other words, a patient who has been anesthetized should be surrounded by the most perfect hygiene possible.

Therapy.—Ether is universally used to cause anesthesia, and is generally administered by inhalation. Internally it is sometimes used as a carminative for the same action as would be obtained from a volatile oil. It has been used as a quickly acting cardiac stimulant, taken in one or two whiffs, or administered in water or given hypodermatically; it causes temporary stimulation by its irritant effect. Such use, however, is hardly justifiable, as its secondary effect is always depressant, and as other quick cardiac stimulants are better, such as camphor, ammonia, or even alcohol.

Official Preparations

Spiritus Aetheris, spirit of ether, contains 32.5 per cent. of ether and 67.5 per cent. of alcohol. The dose is 5 c.c. (or 1 fluidram), a teaspoonful, best administered with cracked ice and water. The only object for this preparation is its action as a carminative.

Spiritus Aetheris Compositus, compound spirit of ether (Hoffmann's anodyne) contains 32.5 per cent. of ether, 65 per cent. of alcohol and 2.5 per cent. of ethereal oil. The dose is 5 c.c. (or a fluidram), a teaspoonful, best administered with cracked ice and water. This preparation has no special sedative effects. If alcohol is desired, whisky or brandy should be used.

(*To be continued*)

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

535 DEARBORN AVENUE . . . CHICAGO, ILL.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

[*For other information see second page following reading matter*]

SATURDAY, NOVEMBER 4, 1911

THE RÔLE OF LIPOIDS IN NUTRITION

The albuminous substances have long had the reputation of standing in unique relation to the activities of living cells. The word "protein" was intentionally selected to designate the preeminent part which these nitrogenous compounds play in the life processes. The eminent physiologist Pflüger coined the expression "protein is the sole living substance" (*nur das Eiweiss ist lebendig*). A recognition of this status has been one of the most effective incentives to those remarkable chemical and biologic studies of the proteins which have been carried out in recent years and have so greatly enlarged our horizon in this direction.

From time to time physiologists have called attention to the possible danger in allowing the supremacy of the proteins to overshadow other essential agencies in successful nutrition. The necessity of supplying a minimum of inorganic compounds—the so-called mineral nutrients—and of furnishing such materials as sodium chlorid, iron and lime salts in suitable amounts and proportions has made itself apparent. In the case of growing individuals the need of iron and calcium has long been recognized; but only of late has the physician acquired a more wholesome appreciation of what the inorganic salts may mean for the preservation of that equilibrium of nutritive processes which we call health. One may recall, as a single illustration, the damage which the undue loss of alkalies from the body, in various conditions of what is broadly termed acidosis, may bring with it.

Again, the other groups of "proximate principles," the fats and carbohydrates, have until quite lately been treated as if they played only an accessory part in nutrition, furnishing energy in interchangeable amounts—merely calorie carriers, as it were. Yet it is more than likely that each of these great groups of nutrients has some specific function in the organism. The appearance of the acetone bodies in the excretions when carbohydrate is withheld is a case in point, leading Rosenfeld to remark that the fats are burned in the flame of the carbohydrates.

Of late, more than passing interest has centered in another group of substances which deserve notice because of their wide-spread distribution in the cells and tissues of both animals and plants. They are termed "lipoids," by which is meant those cell components (other than simple fats) which can be extracted with organic solvents like alcohol and ether. Chemically speaking, they are labile compounds, prone to undergo changes in structure or physical state. The group of lipoids includes various substances, such as the better-known cholesterol and lecithins (phosphatids), members of heterogeneous classes of chemical compounds, though related in some of their characteristic solubilities and physicochemical behaviors. It is not impossible that they exist in the living cell protoplasm in combination with other constituents such as the proteins.

To the lipoids a conspicuous rôle has been ascribed in relation to the phenomena of narcosis, as indicated in the well-known theory of Overton and Hans Meyer.[1] This assumes that the narcotizing substance enters into loose physicochemical combination with the vitally important lipoids of the cell and in so doing changes their normal relation to the other cell constituents, through which an inhibition of the entire cell chemism results. The lipoids have also been associated with various phases of hemolysis and certain branches of immunochemistry.[2] It is by no means evident whether the adult animal organism can manufacture the lipoids, or is dependent on the synthetic capacity of the plant cell to furnish them. An attempt to throw light on this question has lately been made by Stepp.[3] This investigator has fed mice on foods which had been extracted with alcohol and ether to remove all lipoids. He has compared the subsequent duration of life of such animals with that of mice fed with similar unextracted materials or with the same lipoid-free food (usually extracted bread) to which the lipoids have again been added. The experiments show that it is not possible to keep mice alive during long periods when the extracted foods alone are fed, under conditions of environment in which normally fed mice thrive. The question is at once raised as to what specifically essential components of the diet are removed by the methods of extraction employed. They are not inorganic in character: for the addition of the "ash" of the extracts would not restore the nutritive efficiency of the lipoid-free foods. One might question whether a minimum of fat is not necessary for adequate nutrition; but the addition of milk-fat in the form of butter did not suffice to supply the essential missing dietary ingredient. Artificial additions of isolated lecithin and cholesterol were similarly inadequate. In contrast with these negative findings it was observed that the vitally important lipoid substances are present in cream-free milk (*Milch-Plasma*). When the contents of an alcohol-ether extract of separator (skimmed) milk were added to lipoid-free foods the possibilities of uninterrupted health were restored to mice.

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[1] Meyer, Hans: The Theory of Narcosis, Harvey Society Lectures, 1905-06, J. B. Lippincott Co., Philadelphia.

[2] For the literature on this topic see Bang: Biochemie der Zelllipoide, Ergebn. d. Physiol., 1907, vi, 131; 1909, viii, 463.

[3] Stepp, W.: Versuche über Fütterung mit lipoidfreier Nahrung, Biochem. Ztschr., 1909, xxii, 452; Verhandl. Kongr. inn. Med., 1911, xxviii, 324; Bedeutung der Lipoide für die Ernährung, Ztschr. f. Biol., 1911, lvii, 135.

There are, obviously, numerous problems to be investigated before the final words in this chapter can be written. We may look forward with interest to further developments in this field to which the American investigators; Koch, Mathews and others, have contributed noteworthy findings. One observation by Stepp is of itself highly significant of what the future experiences may develop. Thus he noted that the lipoid extract from heated milk is not as efficient as that from the unheated. Such facts, evidently related to the instability of the lipoid components, bear directly on the ever recurring controversies of pediatric practice in relation to the pasteurization of milk. For the present, however, the real lesson of the facts cited lies in the warning against the danger of measuring food values solely in terms of calories.

THE CULTIVATION OF THE SPIROCHÆTA PALLIDA

Although the causal relationship between *Spirochæta pallida* and syphilis has been very generally acknowledged almost since the first announcement of the organism by Schaudinn in 1905, this has hitherto been based only on the quite constant association of the parasite with luetic lesions. The lack of definite proof has been due in part to the difficulty of producing the disease in laboratory animals, but mainly to our inability to obtain the spirochete in pure culture. But with the demonstration of the inoculability of rabbits with syphilis, the first of the obstacles was removed, and very recently Noguchi[1] and Hoffmann[2] have independently announced the artificial cultivation of the organisms in purity and with little apparent loss of virulence. Schereschewsky[3] had, it is true, previously succeeded in growing them in artificial media, but he failed to obtain pure cultures, and while other workers were able to accomplish this, their organisms had apparently lost their virulence, and animal inoculations with them failed. Noguchi's method consists in the inoculation of infected tissue from a rabbit into a medium of diluted serum to which a piece of sterile animal tissue had been added. When incubated under strictly anaerobic conditions the spirochetes were found to grow, although at first almost invariably in association with other organisms. Solid media apparently interfered with the growth of the first generations, but with adaptation to artificial conditions this difficulty disappeared. Pure cultures were obtained in several very ingenious ways. In one case the organisms were grown through a Berkefeld filter of suitable porosity, thereby straining off, as it were, the contaminations. Later it was found that in stab agar growths the spirochetes infiltrated a wider zone than did the other bacteria, and inoculations made from this zone yielded pure cultures.

The essential factors for successful cultivation are apparently the presence of sterile fresh animal tissue in the medium, and strict anaerobiosis. The necessity for the latter, however, disappears to some extent with longer cultivation. As is very frequently the case with pronounced parasites, by far the greatest difficulty is presented by the original inoculation of the artificial medium. Injection of the cultures into rabbits is followed after a suitable period by local lesions, in which are found both the anatomic changes characteristic of syphilis, and typical spirochetes in large numbers. Hoffmann's work, which appeared a little later than that of Noguchi, establishes the connection of the disease in the rabbit with that of man even more firmly, inasmuch as his isolation of the organism was directly from the human lesion.

Aside from the demonstration by this work of the specificity of *Spirochæta pallida* as the cause of syphilis, it will probably be of importance in other ways also. For not only does it open up new fields in the study of the etiologic factors of lues, but it contains possibilities in the way of new and more efficient diagnostic aids. And while at present Noguchi's method of cultivation is so difficult as to offer a bar to rapid progress, it is likely that further development of it will result in its simplification.

BENZOATE OF SODA AGAIN

The American public believes that a question is not settled until it is settled right. This probably accounts for the fact that the sodium benzoate question will not down. And yet, although volumes have been written on this much controverted subject, the problem itself is really a simple one. There are three basic facts on which all are agreed: First, no one denies that sodium benzoate in foods may prove harmful in certain quantities, under certain conditions or when given to certain classes of individuals. Second, no one denies that foodstuffs of a high quality can be put up without the use of sodium benzoate; in fact the best food manufacturers do not use this chemical. Third, no one denies that when this chemical is used, scrupulous cleanliness and extreme care in handling are no longer necessary. These are three incontrovertible facts, admitted grudgingly or frankly, as the case may be, by both the pro and anti-benzoate forces. Under the circumstances, then, it is not irrational to conclude that sodium benzoate should not be used as a food preservative.

And now comes from Berlin the "Expert Opinion of the Royal Scientific Deputation for Medical Affairs Regarding the use of Benzoic Acid and its Salts for the Preservation of Food." These experts were requested by the Minister of Education and Medical Affairs in

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[1] Noguchi: Jour. Exper. Med., 1911, xiv, 99.
[2] Hoffmann: Deutsch. med. Wchnschr., 1911, xxxvii, 1546.
[3] Schereschewsky: Deutsch. med. Wchnschr., 1909, xxxv, 835.

Germany to give their opinion on this subject. In their report, they first describe the chemical and physiologic action of these drugs and then briefly summarize the findings of various scientists on the question at issue. Of the decision of the United States referee board, these German scientists say:

> "The series of experiments in this connection made by the American scientists are of too short duration and the results coupled with certain limitations, so that they cannot be regarded as demonstrating the unconditional non-injurious nature."

After considering all of the evidence on the subject the Scientific Deputation for Medical Affairs reaches the following conclusions:

> "In regard to the admissibility of the use of benzoic acid and its salts for the preservation of food it is mentioned that in France on the basis of a decision of the Commité consultatif d'hygiène publique of October 1, 1888, the Minister of Justice in his circular dated October 16, 1888, prohibited the use of benzoic acid in drinks and food.
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> "In Austria the Supreme Sanitary Council in an expert opinion dated Dec. 16, 1899, decided in favor of a prohibition of preserving substance containing benzoic acid or its salts, and has adhered to this standpoint in a recent expert opinion and given a detailed justification of the same. In the same sense the Saxon Landes-Medizinal-Kollegium expresses itself.
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> "The Scientific Deputation for Medical Affairs is likewise of the opinion that the use of benzoic acid and benzoic acid salts for the preservation of food should not be permitted. Even if small doses of the same may be considered harmless for the human organism there is still a danger that, with the addition of these substances to the various food and drinks on the whole quantities would be daily consumed, which would be injurious to the organism. This fear is particularly justified in the case of children, the aged, and weak or sick persons, whereby it is to be observed that even in the case of normal food not preserved with benzoic acid substances are introduced from which benzoic acid comes into existence in the body.
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> "A further objection against the use of chemical preservatives at all consists in the fact that in its use the food intended for consumption may not be handled with the necessary care and cleanliness to prevent its decay or injury by fungi and that, being neglected by the manufacturers and sellers, under certain circumstances the quality of the goods would suffer. . .
>
> "Similar objections exist regarding albuminous food liable to decay. The experiments of the imperial health office have demonstrated among other things that a slight smell of decay in chopped meat may be concealed, but not entirely removed, by merely stirring or turning over the meat; but on mixing with 0.25 per cent. benzoic acid or sodium benzoate the smell disappears for a time. By this process, therefore, food which has already commenced to decay can be given the appearance of freshness and the purchaser deceived as to its quality."

These findings agree exactly not only with the opinion officially expressed by the American Medical Association in its resolutions on this subject, but also with the opinion held by other scientific bodies and by the intelligent public generally. With the reorganization of the Department of Agriculture, which is as inevitable as it is necessary, it is to be hoped that the United States government will soon cease to hold its present inconsistent position on the subject of the use of sodium benzoate in foods. This chemical has no place in the dietary of any people and certainly its legalized use is a disgrace to an enlightened nation

POLITICS AND THE PUBLIC HEALTH SERVICE

Recent events have drawn attention forcibly to instances of political meddling with the public health service. Within a year the Ohio State Board of Health, long regarded as one of the ablest and most progressive in the United States, has been demoralized by the influence of partisan politics. First eleven members of the laboratory staff were summarily dismissed, including Dr. B. R. Rickards, chief of the laboratory, a well-known scientific worker and for some years past managing editor of the *Journal of the American Public Health Association.* More recently Dr. C. O. Probst, secretary of the Ohio board during a long period, has felt that his duty to the state and his regard for his own honor obliged him to resign his position. Dr. Probst has been a figure of national importance in public health affairs, and it is largely his leadership that has given the Ohio Board of Health its well-deserved reputation in the last decade. An effective health organization has now been swept away. All this is due to the fact that the present governor of Ohio saw fit to fill vacancies on the board with representatives of his own political faith, regardless of merit or especial fitness for the official duties. High political ambitions have been blocked for a lesser cause.

And now, of the three new members appointed by the governor of Massachusetts to the State Board of Health of Massachusetts, not one is an expert or possesses any special qualifications for securing the welfare of the people; but all, of course, are blessed with acceptable political views. It is not necessary to dwell on the absurdity of the assumption that a man's opinion on the tariff or the trusts has any bearing on his fitness to deal with problems of public health. The governor of Massachusetts has likewise exposed himself to criticism by his delay in reappointing Dr. Walcott to the Metropolitan Water and Sewerage Commission. As reported in our news columns last week, a petition bearing the signatures of over two thousand physicians asking for Dr. Walcott's appointment has been presented to the governor. The State Board of Health of Massachusetts has long been one of the most active and efficient in the country. Many men of high scientific eminence have served on its staff, and its scientific work has been given the highest commendation here and abroad. It would be a national misfortune if partisan politics were allowed, even temporarily, to influence its efficiency.

Again, in the State of Illinois, it is true that the State Board of Health has for some years past been the object of much criticism, whether rightly or wrongly we need not here say. Whatever be the facts as to improper licensing, unpleasant rumor and gossip on the subject have been current. The result is that many physicians have not been in sympathy with the Illinois board and as a natural consequence the efficiency of the board has not been high. Loss of confidence, from whatever cause, prevents effective work. It is now stated in the daily press that the governor of Illinois intends to reorganize the State Board of Health with a view to restoring public confidence in the activities of this important body. The new appointments will be watched with interest.

However the problem in these three great states is finally worked out, the duty of physicians is clear. We should insist, in season and out, that expert qualification should be a requisite for any appointment to the public health service or to the ranks of those who have the care of our state and county dependents. The issues are too momentous to allow us to tolerate the injection of partisan politics into public health matters. Intervention in public affairs means for the physician a high degree of self-sacrifice for the common weal, but those who live in a democracy can never forget that eternal vigilance is the price of liberty.

Current Comment

PROTECTING THE HEALTH OF PRISONERS

The frequent occurrence of diphtheria at the New York State Reformatory at Elmira led the superintendent and his medical staff to investigate its source. It was found on taking throat cultures of arriving prisoners that a considerable proportion of them harbored the diphtheria bacillus. When these new prisoners mingled with the healthy reformatory population, epidemics of diphtheria started. An examination of all arrivals since November, 1910, revealed diphtheria bacilli in more than eighty out of 920 prisoners admitted. An isolation hospital had constantly to be maintained. In an effort to eliminate this source of infection, the superintendent obtained an opinion from the attorney-general of the state and instructions from the state commissioner of health which may involve rather far-reaching consequences in relation to the rights of prisoners and the duties of the state and prison authorities regarding the protection of the health of prison inmates. The attorney-general expressed it as his opinion that "the health of prisoners sentenced to reformatories is as much a part of the public health, and they are entitled to as much protection from contagious disease as any other portion of the public," and that it was up to the state board of health to take such steps as were necessary. On this opinion the commissioner of health instructed the superintendent of the reformatory to notify jails or penal institutions that before being sent to the reformatory prisoners must be examined to determine whether or not they are suffering from any infectious or contagious disease. The superintendent accordingly issued such instruction and required that, in addition to a general examination for such diseases, a throat culture must be taken and a certificate of health attached to the commitment. It will be seen that the right is recognized of a prisoner to demand protection of his health either from inmates with whom he is compelled to associate more or less closely, or from insanitary, unhygienic conditions in the prison itself, either from its manner of construction, or from defective care, or from infection of the surroundings by diseased inmates, for which he no doubt might invoke the aid of the courts. It is asserted that many penal institutions, particularly the older ones, are hotbeds of tuberculosis, and that a long term in them means almost certain infection. The possibility of other infections is shown in the instance of diphtheria in the Elmira Reformatory.

BUNCOMBE, BUT NOT BUNCOED

Buncombe County, North Carolina, can boast of the unique distinction of having given an expressive word to the English language. Possibly on account of its name, and because they may have imagined that pseudoscientific buncombe would pass muster there, three enterprising medical fakers opened an office in that county. But they were disappointed. It is true that the local paper accepted as "copy" the buncombe by which these swindlers hoped to gather victims—at regular advertising rates—and it was left to the local medical society to step in and protect the public from the wiles of these impostors. How this was done is described in detail in another place.[1] What the Buncombe County Medical Society did in ridding their locality of undesirable citizens can be done, in the majority of cases, when necessary, in any other county in any other state of the union. It is too bad that work of this sort practically always is left for local physicians to do. No matter how altruistic the motives of physicians may be, the charge will always be made in certain quarters that, in putting medical fakers out of business, the medical profession is not so much concerned with the public's welfare as it is with the elimination of competitors. So long, however, as the newspapers of the country enter into an unholy alliance with medical frauds instead of standing between their readers and these swindlers, so long, probably, will it be necessary for the medical profession to take the initiative in exposing humbugs of this kind.

HAY FEVER AND LOCAL CELLULAR ANAPHYLAXIS

Anaphylaxis at times manifests itself as an exquisitely local process, which is best explained by the assumption that the cells concerned have acquired specifically the power of digesting within themselves the protein which causes the reaction, and hence they are also the chief sufferers from the poisons engendered by this splitting of foreign proteins. An especially striking example is furnished by Bloch and Massini,[2] who found that if a bit of skin from a person infected with trichophyton was transplanted to a healthy person, it would continue sensitive to trichophyton as shown by the local reaction to filtrates from trichophyton cultures. Schittenhelm and Weichardt have described a form of intestinal anaphylaxis which occurs in dogs when they react to a second injection of egg albumin. Violent intestinal symptoms accompanied by a hemorrhagic enteritis extending from stomach to anus, are ascribed to the assumption by the epithelial cells of the task of digesting the foreign protein which reaches them from the blood, with resulting local poisoning by the toxic products of this proteolysis. These authors[3] explain hay fever on the same basis, as a local anaphylactic reaction to pollen proteins. If true, this explains the inefficiency of antipollen serum when injected subcutaneously into hayfever patients, for such an antiserum would be entirely ineffective in combating the local effect of products of proteolysis. The successful treatment of some patients by local application of serum to the nasal mucosa they ascribe to the antiproteolytic power which serums commonly exhibit, whether from normal or from immunized animals. For this purpose, however, normal serum should be as efficient as immune serum, or more so, and there are clinical observations which are entirely in agreement with this idea. Certainly the evidence which is now rapidly accumulating all points towards the anaphylactic nature of hay fever and many related conditions, and from all we know of anaphylaxis there is no hope to be offered of efficient antitoxic serum therapy; but there is every hope that with the progress of our knowledge of anaphylaxis will come the rational therapy of disorders of this class.

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[1] Propaganda for Reform department, in this issue, "Electro-Radio Fakers."

[2] Ztschr. f. Hyg., 1909, lxiii, 68.

PENNSYLVANIA'S MEDICAL ORGANIZATION AND THE AUSTIN FLOOD

The town of Austin, Pennsylvania, was destroyed by a flood September 30. There were seven physicians in the town, three of whom were members of the Potter County Medical Society. The secretary of the Pennsylvania State Medical Society advanced $200 for the relief of the physicians, and the board of trustees, which is ex officio a committee on benevolence in that organization, authorized the secretary to receive contributions to assist the physicians of Austin and their families, with the understanding that any money received in excess of what is needed for the present emergency is to become part of the benevolence fund of the state society. Within four weeks, voluntary contributions to the amount of $800 had been received. Can any one doubt that "organization" is effective?

SECTARIAN CATSPAWS FOR FAKERS

In a recent number of the New York *Herald* appeared an account of a meeting held in that city by the National League of Medical Freedom to protest against the establishment of a national department of health. After the usual hysterics regarding the "medical trust" and its awful work, one of the speakers is reported to have said:

> The Owen bill says that the new department of health shall recognize no school of medicine. Why not make it say that it will discriminate against no school of medicine? The bill would say this if Senator Owen was not admittedly the agent of the American Medical Association in this matter.

This is a fair sample of the quibbling and hair-splitting objections raised against this measure. The National League of Medical Freedom, according to its accredited representative, would evidently like the Owen bill better if its wording were amended as indicated. Very well, so far as the American Medical Association has any influence, it will certainly favor such a change, as well as any other changes which will make it clear to the deluded sectarian dupes of the "patent-medicine" interests that the establishment of a national department of health has nothing to do with the individual practice of medicine, and that the passage of the Owen bill will not, in any way, affect the relations between physicians and patients. The wily "patent-medicine" fakers and the food adulterators are trying desperately to make the Eddyites and the medical sectarians believe that they are in danger of martyrdom in the near future. As has been repeatedly stated, the federal Congress has no jurisdiction whatever over the practice of medicine in the states. The followers of cults, fads and sects are needlessly exciting themselves. No one has any desire to interfere with their freedom to believe anything they like. But if a change in verbiage will relieve their overwrought minds and calm their excited fears, it is to be hoped that the suggested change will be made.

Medical News

COLORADO

Personal.—Dr. Leonard W. Ely has retired from the editorship of *Colorado Medicine* and the work has been taken up by Dr. Charles S. Elder, a member of the Publication Committee of the state society.——Dr. Samuel R. McKelvey has succeeded Dr. Benjamin Franklin Wooding as inspector of the Lying-In Hospital of Denver.——Dr. James T. Muir has been elected chief of the Caledonian Society of Colorado Springs.

DISTRICT OF COLUMBIA

Personal.—Dr. W. C. Ruediger has been advanced from assistant professor of educational psychology in the Teachers' College of George Washington University.——Dr. Ralph A. Hamilton has been appointed professor of histology and embryology in the school of medicine of Georgetown University.——Dr. William F. R. Phillips, formerly dean of the medical department of George Washington University, has been elected professor of anatomy in the School of Medicine, University of Alabama, Mobile, and has moved to the latter city.

Society Indorses Wiley.—Resolutions of congratulations to Dr. Harvey W. Wiley were duly adopted by the Medical Society of the District of Columbia at its meeting, October 11. The resolutions set forth that the members have been deeply interested in the investigation of the work of Dr. Harvey W. Wiley in his efforts to secure the enforcement of the pure food regulations; that they heartily rejoice that Dr. Wiley has been completely exonerated from any alleged wrong-doing and that his methods and principles have been fully vindicated, and furthermore present to the President of the United States their commendation of the justice, wisdom and impartiality displayed in his settlement of the dispute.

New Maternity.—The Elisha Francis Riggs Memorial Building of Georgetown University Hospital, especially designed for the care of maternity cases, is under roof and will be in operation in January next. The first floor of the building will provide for twenty-four colored charity patients; the second floor is designed for a similar number of white patients; the third floor will accommodate twenty patients who will pay from $10 to $12 per week, and the fourth floor is to be devoted entirely to private rooms. Each floor has separate delivery and recovery rooms, accommodations for nurses, diet, kitchen, etc.——Another pavilion, 30 by 100 feet, will be erected on the corner of Thirty-Sixth and N Streets, which will be devoted entirely to the care and treatment of mental and nervous diseases. This pavilion will fill a distinct need in the care and treatment of this class of patients and will greatly enhance the facilities for clinical instruction in the University.

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[3] Schittenhelm and Weichardt: Deutsch. med. Wchnschr., 1911, xxxvii, 867

ILLINOIS

State Health Board Members Resign.—Dr. George W. Webster, Chicago, president; Drs. Henry Richings, Rockford; Perry H. Wessel, Moline, and Walter R. Schussler, Orland, members of the State Board of Health, have resigned.

State Conference of Charities.—At a meeting of the Illinois State Conference of Charities and Correction held in the Illinois Auditorium, Urbana, last week, the following officers were elected: president, Prof. Edward C. Hayes, University of Illinois, Urbana; vice-presidents, F. E. Morey Lyon, Chicago, and Mrs. Nannie Duncan, Bloomington; and secretary-treasurer, Mr. A. L. Bowen, Springfield. The next conference will be held in Springfield.

Personal.—The obituary notice of Dr. Perry H. Wessel, Moline, which appeared in the Chicago *Tribune* of October 29, was exaggerated, as Dr. Wessel is still alive and attending to his practice.——Dr. Ralph T. Hinton, assistant superintendent of the Jacksonville State Hospital has been appointed superintendent of the Elgin State Hospital. Dr. Edward A. Foley, assistant superintendent of the Anna State Hospital, has been transferred to the Jacksonville Hospital. Dr. Charles F. Read, assistant superintendent to the Watertown State Hospital to the Kankakee State Hospital and Dr. Thomas R. Foster, assistant superintendent of the Kankakee State Hospital, to the Anna State Hospital.——Dr. Augustus W. Chandler, Compton, has purchased a residence in North Dixon for $15,000, *which he will remodel and open as a private hospital.*——Dr. John Niess, Jr., Carmi, is reported to be critically ill.——Dr. Sidney D. Wilgus, formerly superintendent of the Elgin State Hospital has been transferred to a similar position in the Kankakee State Hospital and assumed charge of the institution, October 10. On leaving Elgin, October 7, the employees of the State Hospital tendered him a purse containing fourteen $5 gold pieces and a new dollar bill, as a parting gift of remembrance and esteem.——Dr. George J. Schneider, Elgin, fractured his right wrist while cranking his automobile, October 7.——Dr. Henry J. Gahagan, Elgin, fell on the stairs of his office, October 10, and injured his right leg.——Dr. Samuel Nuel Sims, Danville, is said to have been adjudged insane by the Iroquois County Court, October 11, and committed to the Kankakee State Hospital.

Chicago

Baptists Project Hospital.—At the annual meeting of the Illinois Baptist Association, October 18, an appropriation of $100,000 was recommended for the erection of a Baptist Hospital in Chicago.

Hospital Notes.—Pursuant to the wishes of his late wife, James B. Hobbs has presented to the Frances E. Willard National Temperance Hospital a six-flat building on Prairie Avenue, valued at about $25,000.——An emergency hospital is being installed in connection with the temporary police headquarters at Clark and Harrison Streets.

New Hospital Dedicated.—The dedicatory exercises of the new building of the People's Hospital were held October 29-31. On October 29 a mass meeting was held for patrons and friends *on the ground floor of the old building; the Founders' Club* Festival was held the same evening. The evening of October 30 was given over to a banquet to, and inspection of the building by the various contractors and their employees, and on October 31 an informal gathering of members of the medical profession and their families was held. The new building is three stories and a basement in height; of brick, with cut-stone trimmings, fire- and sound-proof, and contains four wards of ten beds each, and twenty-one private rooms in addition to the other necessary accommodations.

INDIANA

Hospital for Elkhart.—Work is to be commenced at once on a modern hospital for Elkhart, and a subscription of $48,000 has been subscribed for this object.

Social Service Department Organized.—Dean Emerson of the Indiana University School of Medicine has organized a social service department in the City Dispensary, Indianapolis.

Employment of School Nurses Not Authorized.—Attorney-General Honan has given an opinion to the State Board of Health that the statute governing medical inspection in schools does not authorize the employment of nurses by the school authorities.

District Society Meeting.—At the annual meeting of the Eleventh Councilor District Medical Society held in Wabash, October 20, Dr. Lorin W. Smith, Wabash, was elected president; Dr. James L. Gilbert, Logansport, secretary and treasurer, and Dr. Godlove G. Eckhardt, Marion, councilor.

Infantile Paralysis.—The epidemic of infantile paralysis, which raged in all parts of the state during the summer and fall, showed a total number of cases of 102 up to October 28. Of these twenty-eight were in cities and seventy-four in the country; three-fourths of all patients are under 5 years of age and seventeen deaths occurred. Dr. William F. King, Columbia City, assistant secretary of the State Board of Health, who makes this report, states that in eighteen instances animals giving evidence of a similar illness, inhabitated the premises.

Communicable Diseases Prevalent.—All the city schools of Madison have been closed and all children have been prohibited from attending public gatherings on account of an epidemic of diphtheria.——The public schools of Petersburg have been closed on account of the prevalence of forty-two cases of scarlet fever.——Diphtheria in epidemic form is reported from Greensburg, where more than forty patients are under quarantine.——The city schools of Crawfordsville have been closed on account of epidemic diphtheria.——From twenty to thirty new cases of diphtheria have lately been reported in Indianapolis each day; Sunday schools have been closed and children have been prohibited from attending public gatherings. The city council has appropriated $3,000 to meet the cost of making 30,000 cultures.

IOWA

Personal.—Dr. Frank S. Hough has opened the Sibley Hospital.——Dr. Phillip G. Young, Hocking, started for Vienna, October 28.——Dr. Charles French, who has been ill with septicemia at St. Luke's Hospital, Cedar Rapids, has been obliged to have the infected finger amputated.

New Hospital Established.—An organization was perfected at a meeting of physicians of Manchester, recently, which assured the establishment of a hospital and nurses' training school in that place. Dr. Harry M. Bradley was elected president of the organization; Dr. Thomas Burns, vice-president; Dr. John A. May, secretary; Dr. Ernest G. Dittmer, treasurer, and Dr. William Coburn, house physician of the new institution. Residence property has been leased as a temporary location, but it is planned later to erect a modern hospital building.

Society Meetings.—At the annual meeting of the Second District Medical Society held in Davenport, October 10, the following officers were elected: president, Dr. Elbridge H. King, Muscatine; vice-presidents, Drs. Edgar B. Henderson, Marengo, and Harry R. Reynolds, Clinton; and secretary-treasurer, Dr. John V. Littig, Davenport (reelected). The next meeting will be held in Davenport, October 19, 1912.——At the annual meeting of the Council Bluffs Medical Society, the following officers were elected: Dr. Matthew E. O'Keefe, president; Dr. Merle F. Warner, vice-president; Dr. David H. Carson, secretary; and Drs. Christian S. Ericksen, Sydney Smith and F. Earl Bellinger, censors.

KANSAS

Hospital Dedicated.—The new hospital of the Medical Department of the University of Kansas, at Rosedale, was dedicated with appropriate ceremonies, October 23.

Personal.—Dr. John D. Horne, Coffeyville, who was recently said to suffer with cerebral hemorrhage, writes that he had simply a second stroke of paralysis, has lost the use of his legs from the hips down, and is confined to his house.——Dr. Romulus Z. Linney, Wichita, is reported to be critically ill, following an operation for appendicitis.——Dr. Byron L. Hale has been appointed city physician of Cherryvale, vice Dr. Benjamin M. Savage.

KENTUCKY

Tuberculin Test Enforced.—At a meeting of the city and county board of health held in Lexington recently, it was decided to begin an enforcement of the State Board of Health regulations for the tuberculin test of cattle. All animals showing a positive reaction will be slaughtered.

State Association Meeting.—The fifty-sixth annual meeting of the Kentucky State Association was held in Paducah. October 24-26, under the presidency of Dr. Joseph E. Wells, Cynthiana. The following officers were elected: president. Dr. David O. Hancock, Henderson; vice-presidents, Drs. Delia Caldwell, Paducah; William L. Mosby, Bardwell, and James R. Steele, Corbin; orator in medicine, Dr. Curran Pope, Louisville; orator in surgery, Dr. Archibald H. Barkley, Lexington; delegates to the American Medical Association, Drs. William W. Richmond, Clinton, and J. W. Ellis, Masonville; councilor for the Fourth District, Dr. Robert C. McChord, Lebanon; and councilor for the Eleventh District, Dr. James S. Lock, Barboursville. The secretary, Dr. Arthur T. McCormack, Bowling Green, and treasurer, Dr. William B. McClure, Lexington, hold over for another year.

Work of the Health Exhibit Car.—The traveling health exhibit car of the Kentucky Association for the Study and Prevention of Tuberculosis, during its recent tour, visited sixty-one towns and cities in ninety-one days and in each of these illustrated lectures were given in halls, churches and schools. During this time 25,039 persons visited the car and inspected the exhibits and 11,565 attended the lectures given. There were distributed from the car 20,144 pieces of literature.

Society Meeting.—At the annual meeting of the Bourbon Medical Society held in Paris, October 17, the following officers were elected: president, Dr. Charles B. Smith, Millersburg; vice-presidents, Drs. Frank Fithian, Paris, and Arthur H. Kelly, Paris; secretary and treasurer, Dr. David B. Anderson, Paris; delegate to the state society, Dr. William Kenney, Paris, and alternate, Dr. John T. Brown, Paris. Resolutions were adopted making suitable recognition of that part of the will of the late Mrs. W. W. Massie, which has made the establishment of a hospital in Paris a possibility.

Personal.—Dr. Louis G. Contri, Milton, is reported to be critically ill with carcinoma of the stomach.——Dr. Evart Hawkins, Finchville, is reported to be seriously ill with ptomain poisoning.——At its annual meeting in Frankfort, October 12, the State Board of Control is said to have entered an order for the removal of Dr. R. L. Willis from the superintendency of the Eastern Kentucky Hospital for the Insane, Lexington.——Dr. W. J. M. Smiser, Skylight, was seriously injured, October 5, by being thrown from his horse.——Dr. David C. Bowen, Elizabethtown, is reported to be critically ill with tuberculosis.——Dr. Everett Layton Pirkey, has been appointed superintendent of the Waverly Hills Sanatorium, vice Dr. Archibald B. Elkin, resigned, to become superintendent of the Elkin-Goldsmith Sanatorium, Atlanta, Ga.——Dr. Frederick A. Stine, Jr., Newport, has been elected a member of the State Board of Health, to succeed himself.

MARYLAND

Charity Conference.—The Seventh Maryland Conference of the Board of Charities and Correction will be held in Baltimore, November 27-29. Among the important matters for discussion is a plan for the establishment of county hospitals for advanced cases of tuberculosis, and the county commissioners will be invited to attend and take part in the conference as a special tax levy will be required to carry out this plan.

Baltimore

Verworn on Narcosis.—Prof. Max Verworn of the University of Bonn, Germany, made an address before the Johns Hopkins Society, October 30, on "Narcosis."

Typhoid Fever.—Many cases of typhoid fever are reported in the city. The Maryland General Hospital reports thirty-five cases; Mercy Hospital, forty; University Hospital, twenty; Franklin Square Hospital, ten; and the Maryland Homeopathic Hospital, three.

Italian Steamer Detained.—As a precaution against members of the crew being infected with cholera, the Baltimore quarantine detained the Italian steamer *Soperga* from the Mediterranean, but no trace of the disease was found on board.

MASSACHUSETTS

Liner Released.—As no cholera infection was found among the crew of the Bucknell steamer *Kioto*, it was released October 6 and allowed to dock at East Boston.

Addition to Dispensary Started.—Work was begun October 5 at the Boston Dispensary, to add a fourth story to the building, which will be arranged as a hospital for infants and children and will accommodate about thirty-five patients.

Large Estate.—The estate of Dr. Charles G. Weld who died in Brookline last June, leaving large bequests to the Massachusetts General Hospital, and the Boston Dispensary and the Boston Lying-In Hospital, has been found to amount to $773,000.

Work of Dispensary.—At the one hundred and seventeenth annual meeting of the Boston Dispensary, the reports showed that more than 30,000 sick poor had been treated during the past year in its clinics, and 10,000 others had been cared for in their homes.

Addition to Consumptives' Home Opened.—On October 8 nearly 7,000 people visited the Free Home for Consumptives, Dorchester, to inspect the addition just completed. This was the first of a series of gatherings for the collection of a fund for opening the addition, which will provide 125 more beds for the institution.

Elections.—At the annual meeting of the Brookfield Medical Club in Ware, October 18, Dr. Ephraim W. Norwood, Spencer, was elected president; Dr. Homer Z. Leach, Gilbertville, vice-president; and Dr. Idelle L. Edmands, North Brookfield, secretary-treasurer.——At the annual meeting of the Attleboro Anti-Tuberculosis Society the following physicians were elected as members of the executive committee: Drs. William O. Hewitt, Frederick V. Murphy, Boston, Clarence W. Estey and George E. McPherson.

Personal. The appointment of Dr. Henry P. Walcott, Cambridge, as a member of the Metropolitan Water and Sewage Commission, was properly confirmed by the council.——Dr. L. Vernon Briggs, Boston, has been appointed a member of the State Board of Insanity.——Dr. Ernest B. Emerson, Tewksbury, formerly superintendent of the North Reading (N. H.) Sanatorium, has been appointed medical director of the State Farm institution, Bridgewater.——Dr. Charles P. Putnam, chairman of the board of trustees of the children's institutions of Boston, has retired.

MISSOURI

Tag-Day.—The total collections of tag-day for Mercy Hospital, Kansas City, amounted to $5,561.

New Building Dedicated.—Governor Hadley, on October 8, presided at the dedicatory exercises of Hadley Hall, the new addition to the State Sanatorium for Incipient Tuberculosis, Mount Vernon. The new building will accommodate about seventy-five patients.

Hospital for Insane Consumptives.—The new building for the care and treatment of insane consumptives at the Fulton State Hospital for the Insane is nearly ready, and will be opened December 1. This is the first hospital of its kind in the state, and has been erected at a cost of about $50,000.

Personal.—Dr. Robert H. Goodier, Hannibal, president of the Missouri State Medical Association, has moved from Hannibal to Stoutsville.——Dr. Harvey S. Reese, Wayland, coroner of Clark County, has resigned and moved to Macon.——Drs. William J. Thompkins, M. O. Bausfield, Ernest J. McCampbell and J. Edward Perry have been appointed assistants to the medical and surgical staff of the Kansas City General Hospital, and will look after the colored patients in the institution.——Dr. Ephraim M. Folsom, Boonville, has returned from Europe.——Dr. James A. Gray, Watson, lost the sight of his left eye from a blow with a baseball recently.——Dr. Samuel A. Johnson, Nevada, has established a sanitarium in Springfield for the treatment of mental and nervous diseases.

Society Meetings.—The Saline County Medical Association held its annual meeting in Marshall, October 20, and elected the following officers: president, Dr. Abner E. Gore, Marshall; vice-presidents, Drs. A. Fletcher Brown, Malta, William L. Sharp, Little Rock, and Frank Aubrey Howard, Slater; and secretary, Dr. John R. Hall, Napton.——The Twelfth Councilor District Medical Association, at its semi-annual meeting, October 10, in Platte City, elected Dr. Eugene C. Robichaux president.—— The Kansas City Academy of Medicine held its annual meeting, October 7, and elected Dr. Samuel S. Glasscock, Kansas City, Kan., president; Dr. Frank C. Neff, vice-president; Dr. Peter T. Bohan, censor; Dr. Charles B. Hardin, treasurer, and Dr. Paul V. Wooley, secretary, all of Kansas City, Mo.

NEBRASKA

State Hospitals for Consumptives.—The state has purchased land at Kearney for the establishment of a city hospital for indigent consumptives and a residence already on the 13-acre tract is to be used as one of the buildings of the institution.

Personal.—Dr. Wright Newman, Aurora, was shot in the face and seriously injured while duck hunting, October 22.——Dr. Anders P. Overgaard, Fremont, was thrown to the pavement of his garage while cranking his automobile, and is suffering from concussion of the brain.

NEW JERSEY

Personal.—Dr. John W. Pratt, Coatesville, Pa., has been elected president of the Medical Society of Chester, Delaware and Montgomery counties.——Dr. E. S. Bloch, Williamstown, has been made medical inspector of the schools of Monroe Township.

Alumni Organize.—At the monthly meeting of the Jersey City hospital staff an alumni association was formed at which Dr. Frank D. Gray, Jersey City, was elected honorary president; Dr. Gustav F. Boehm, Jr., president; Dr. John Lautman, Jersey City, secretary, and Dr. George W. Mueller, Newark, treasurer.

Meeting of Eastern Monmouth Practitioners.—The annual meeting of the Eastern Monmouth Practitioners' Society was held in Red Bank, October 12, and the following officers were elected: president, Dr. D. Edgar Roberts, Keyport; vice-president, Dr. William W. Beveridge, Asbury Park; secretary, Dr. Peter P. Rafferty, Red Bank, and treasurer, Dr. William K. Campbell, Long Branch.

Tri-County Society Meeting.—At the annual meeting of the Tri-County Medical Society of Morris, Sussex and Warren Counties, held in Washington, October 18, the following officers were elected: president, Dr. Abram E. Carpenter, Boonton; vice-presidents, Drs. Enos E. Beatty, Newton, and George W. Cummins, Belvidere; secretary, Dr. Charles B. Smith, Washington, and treasurer, Dr. Frederick W. Flagge, Rockaway.——Dr. Charles S. Heritage, Glassboro, has been elected president and Dr. George S. Redding, secretary, of the Tri-County Medical Society, at the annual meeting held in Bridgeton, October 24. The next meeting will be held in Woodbury.

NEW YORK

Meeting of the State Department of Health.—The Annual Conference of Health Officers met in Carnegie Lyceum, New York City, October 25. The subject discussed was the control of communicable diseases. Dr. Frederick B. Willard of Buffalo called attention to the dangers of contagion from street cars, and urged proper disinfection for trolley cars all over the state. He also urged the enactment of laws prohibiting the dry sweeping of all cars, and thought such a law ought to apply to all public places, whether conducted by the state, municipality or individual.

Sanitary Officers Meet.—The second annual convention of the New York State Sanitary Officers' Association was held in New York City, October 24. Nearly all of the 1,400 sanitary districts in the state were represented at the meeting. A resolution was passed and copies sent to all members of the legislature denouncing the action of the recently adjourned legislature in passing bills appropriating thousands of dollars for the prevention of disease among cattle and hogs, while they cut down the appropriation for the care of human beings suffering from tuberculosis. They also called the attention of the legislature to the need of uniform laws on such matters as the regulation of spitting on sidewalks and in public places, and the lack of uniformity on the treatment of insane patients. The following officers were elected to serve during the ensuing year: president, Dr. Frank Overton, Patchogue; vice-presidents, Dr. Daniel S. Burr, Binghamton; Dr. Louis B. Couch, Nyack, and Dr. Louis H. Brown, Pine Plains; treasurer, Dr. William Stanton, Webster; and secretary, Dr. Montgomery E. Leary, Rochester.

New York City

Harvey Lecture.—Dr. James J. Putnam, Harvard University, delivers the fourth of the present series of lectures at the New York Academy of Medicine on Saturday evening, November 11, at 8:30, on "Freud's Psycho-Analysis."

Plan Two Inebriate Hospitals.—The Board of Inebriety is preparing to build a hospital at Kingston Avenue, Brooklyn, on a site provided by the Department of Charities. A second hospital will be built on Blackwell's Island, where confirmed inebriates will be received.

Money for the Blind.—The Department of Charities recently made its annual distribution of money to worthy blind poor. About $75,000 were distributed, which was much more than ever before, due to the number of blind persons who are learning trades and who before they can earn their own livelihood, are forced to ask for assistance from the department.

Personal.—Dr. Samuel J. Meltzer of the Rockefeller Institute for Medical Research has been elected a member of the Imperial Leopoldina Carolina Academy of Naturalists, at akau.——Dr. Theodore C. Janeway has been appointed a member of the board of scientific directors of the Rockefeller Institute for Medical Research, vice Dr. Christian A. Herter, deceased.

City Increases Appropriations.—The city budget for the coming year provides that the Health Department shall receive $3,392,938, which is an increase of $569,438 over the present appropriation. Bellevue and the Allied Hospitals get an increase of $86,060, and the Department of Charities an increase of $169,155.

Find More Tuberculosis.—The report of Leopold Plaut, president of the United Hebrew Charities, read at the annual meeting of this organization, shows an increase in the number of cases of tuberculosis among working people, the percentage increasing from 14 to 20 per cent. Mr. Plaut said there was no doubt that overwork, congestion and undernourishment were largely responsible for this increase.

Medical College Opened.—Cornell University Medical College opened September 27, with an enrollment smaller than that of the preceding year, which is due to the fact that all matriculants for the degree of M.D. now registered are admitted under the advanced requirements, which necessitated the presentation of a bachelor's degree in science or arts, together with something more than one year's work in physics, chemistry and biology.

Health Department to Take Over Milk Stations.—The twenty-two milk stations of the New York Milk Committee will be taken over by the Health Department on November 1. This action followed an appeal from the Milk Committee to the Health Commissioner to take charge of these stations and the 5,000 babies in the dispensary list of the Milk Committee. The infants will be looked after by department physicians and nurses until the first of the year. The Health Department has been looking after fifteen milk stations, which, together with those of the Milk Committee, will make thirty-seven. It is believed that money will be available to support sixty stations next year.

NORTH CAROLINA

Hookworm Exhibit.—Dr. John A. Ferral, Kenansville, Assistant Secretary of the State Board of Health, had an interesting exhibit at the state fair in Raleigh last week. Hookworm victims were shown, and the parasites themselves with the ova. Physicians were in attendance to examine applicants who desired to be examined for the disease. A lecture with stereopticon views, microscopes and the regular paraphernalia complete of a "hookworm dispensary" in operation were on exhibit. The exhibit attracted much attention, and a large number of examinations of patients were made during the week. Eighteen counties have now made provision for a systematic canvass and examination of all young people through the establishment of hookworm dispensaries.

PENNSYLVANIA

Philadelphia

Personal.—Dr. William Zentmayer has been elected professor of ophthalmology in the Philadelphia Polyclinic and College for Graduates in Medicine, succeeding Dr. Theodore B. Schneideman, resigned.——Dr. Eugene L. Vansant, professor of diseases of throat and nose in the Philadelphia Polyclinic Hospital is recovering from the effects of an infected wound of the right hand.

To Sell Hospital.—Unless the writ is stayed before November 6, the Douglas Memorial Hospital and Training School will be sold by the sheriff to satisfy a mortgage of $25,267. For some time, this institution which recently built a new hospital building, has been in financial difficulties and about a year ago the property was to have been sold at sheriff's sale, but the writ was stayed. Besides the encumbrance of $25,267 on the property there is a mortgage of $31,000.

Increase of Contagious Diseases.—While the health report for the week ending October 28 shows a marked decrease in the total number of deaths as compared with the previous week and also a decrease of more than 10 per cent. in the number of deaths from pneumonia and bronchopneumonia, there were eighty-one new cases of diphtheria reported with eleven deaths. There were thirty-five new cases of chickenpox and one death, and twenty-five new cases of scarlet fever with twenty-five deaths.

Physicians Endorse Cassidy's Work.—At a meeting of the northern branch of the Philadelphia County Medical Society, resolutions were passed endorsing the work of Harry P. Cassidy, special agent of the State Dairy and Food Commission, who is waging a relentless war on the food adulterators, and promising him united and individual support. Prof. Charles H. La Wall, chemist of the commission, was one of the speakers at the meeting and called attention to a list of United States court decisions, just published. In one, a man is fined $200 for adulterating food for cattle, while in another, a firm is fined only $10 for selling putrid ketchup.

UTAH

Personal.—Dr. Edgar G. Bates has been appointed medical examiner of the public schools of Ogden.——Dr. Albert S. Bower, Salt Lake City, was in charge of the emergency staff of physicians at the recent state fair

Utah State Medical Association.—The Utah State Medical Association, at its seventeenth annual meeting, held in Salt Lake City, October 4 and 5, elected the following officers: president, Dr. Robert W. Fisher, Salt Lake City; vice-presidents, Drs. Charles E. West, Salina; Eugene H. Smith, Ogden, and T. H. Howells, Bountiful; secretary, Dr. W. Brown Ewing, Salt Lake City (reelected); treasurer, Dr. Howard P. Kirtley, Salt Lake City, and delegate to the American Medical Association, Dr. Sol G. Kahn, Salt Lake City.

GENERAL

Ohio Valley Meeting.—The thirteenth annual meeting of the Ohio Valley Medical Association will be held in Evansville, November 8 and 9, under the presidency of Dr. William D. Haines, Cincinnati.

Southern Physicians Meet This Month.—The annual meeting of the Southern Medical Association will be held in Hattiesburg, November 14-16.——The Southern Medical College Association will hold its annual meeting in conjunction with that of the Southern Medical Association.

Labor Unions Approve Red Cross Seal.—The National Association for the Study and Prevention of Tuberculosis announces that at the last annual convention of the American Federation of Labor, resolutions were adopted, calling on all members of the federation to endorse the movement for the sale of Red Cross Christmas seals to secure funds for carrying on the campaign against tuberculosis.

Personal.—Surgeon Henry R. Carter, United States Public Health and Marine-Hospital Service, in charge of the United States Marine Hospital, Louisville, is seriously ill with typhoid fever.——Lieutenant Herbert W. Yemans, M.R.C., U. S. Army, has returned to his station, Fort Wayne, Detroit, after attending the Esperanto Congress at Antwerp, Belgium, of which he was appointed temporary chairman. Dr. Yemans was tendered a reception, October 14, at the Randolph Hotel, Detroit.——Dr. and Mrs. Grosbeck Walsh, Cristobal, Canal Zone, started October 9 for their future home in Nicaragua.——The Canadian government has appointed Dr. Gilbert T. Smith, Stamford, Conn., formerly of Baltimore, physician to the American party in the Alaskan boundary survey, to take charge of the medical treatment of the village of Indians at Rampart House, where there is an epidemic of small-pox.

Railway Surgeons Meet.—The tenth annual meeting of the association of Seaboard Air Line Railway Surgeons was held in Washington, October 17-19, and the following officers were elected: chairman of the executive committee, Chief Surgeon Dr. Joseph M. Burke, Petersburg, Va.; president, Dr. Samuel C. Benedict, Athens, Ga.; vice-presidents, Drs. Hampden A. Burke, Petersburg, Va.; Robert L. Harris, Jacksonville, Fla., and John H. Miller, Cross Hill, S. C.; and secretary-treasurer, Dr. Jarrett W. Palmer, Ailey, Ga. (reelected).——The second annual meeting of the Railway Surgical Association of the Southwest was held in El Paso, Tex., October 20 and 21, and the following officers were elected: president, Dr. Francis E. Shine, Bisbee, Ariz.; vice-presidents, Drs. John W. Colbert, Aubuquerque, N. Mex., and Carlos E. Husk, Santa Barbara, Mexico; secretary-treasurer, Dr. Herbert E. Stevenson, El Paso, Tex., and trustees, Drs. Samuel D. Swope, Deming, N. Mex.; H. F. Bailey, Courtland, Ariz., and William L. Brown, El Paso, Tex.

Clinicians to Meet in Philadelphia.—As already announced in THE JOURNAL, the second annual meeting of the Clinical Congress of Surgeons of North America will be held in Philadelphia, November 7-16, with headquarters at the Hotel Bellevue-Stratford. The clinical program is extensive. The first of the evening literary sessions, held in connection with the Philadelphia County Medical Society, will be devoted to the surgery of the upper abdomen; on the second evening the president's address on "Coordination of Undergraduate and Postgraduate Teaching of Clinical Surgery" will be given by Dr. Albert J. Ochsner, Chicago; Dr. Alexis Carrel, New York City, will present a paper, illustrated by lantern slides, on the "Technic and Remote Results of Blood-Vessel Anastomoses," and Dr. William J. Mayo, Rochester, Minn., will give an illustrated address on "Cancer of the Stomach; Its Surgical Cure." The Friday evening session of the congress will be held in conjunction with the meeting of the Philadelphia Neurological Society; the meeting of November 13, with the Academy of Surgery; that of November 14 with the Pediatric Society of Philadelphia, and that of November 15 in connection with the Obstetrical Society of Philadelphia. On the last evening there will also be held a combined meeting of the Section on Otology, Laryngology and Ophthalmology.

American Public Health Association.—The thirty-ninth annual meeting of the American Public Health Association will be held in Havana, Cuba, December 5-9, under the presidency of Dr. Robert M. Simpson, Winnipeg, Man. Dr. M. Varona Suarez is president and Dr. Federico Torralbas, secretary, of the local committee of arrangements. The program of the meeting includes symposiums on Asiatic cholera, hookworm disease and tuberculosis, and papers on pellagra, acute anterior poliomyelitis, typhoid fever, Mexican typhus and isolation hospital construction and management. The laboratory section will consider the reports of the various technical committees on standard methods for the analysis for milk, water and sewage and the bacteriologic diagnosis of tuberculosis, typhoid fever, etc. In the section on vital statistics a symposium will be held on mortality registration in the South and the subject of "Uniform Tables for Statistical Reports and Bulletins" will be considered. The section of municipal health officers will give prominence in its meeting to the promotion of the efficient application of scientific sanitation to municipal conditions. No programs are announced for the new sociological section, or the section on sanitary engineering. The headquarters of the association will be in the Hotel Sevilla, and the general sessions will be held in the rooms of the Ateneo and Circulo de la Habana. The university laboratories will be used for the laboratory section. Ample entertainment has been provided by the courtesy of the people of Havana, including a trip to a tobacco plantation, a banquet at the National Theater, a picnic on the grounds of La Tropical Brewery, a Spanish-Cuban Verbena at the Hotel Sevilla, a trip to Morro Castle, Cabamas, Triscornia Detention Camp and a visit to the wreck of the *Maine*.

Prevention of Infant Mortality.—The second annual meeting of the American Association for Study and Prevention of Infant Mortality will be held in the Hotel La Salle, Chicago, November 16-18. Two popular sessions have been arranged for; two general sessions, and six section meetings. The opening session will be addressed by the president Prof. Charles Richmond Henderson of the University of Chicago, Dr. George B. Young, commissioner of health of Chicago, and Dr. Hastings H. Hart of New York. The speakers at the popular session November 17 will be Dr. Henry J. Gerstenberger of Cleveland, Miss Jane Addams, and Dr. William A. Evans of Chicago, and Dr. Joseph W. Schereschewsky of the U. S. Public Health and Marine-Hospital Service, Washington, D. C. The section meetings will be under the chairmanship of the following: Nursing and Social Work, Miss M. Adelaide Nutting, Department of Nursing and Public Health, Columbia University; Housing, Mr. Lawrence Veiller, secretary and director National Housing Association, New York City; Midwifery, Dr. Mary Sherwood, Baltimore; Eugenics, Prof. H. E. Jordan, University of Virginia; City Milk Supply, Prof. Edwin O. Jordan, University of Chicago; and Continuation Schools of Home Making, Dr. Helen C. Putnam, Providence. Prof. Charles R. Henderson of the University of Chicago is president of the association, and Dr. Cressy L. Wilbur, Bureau of the Census, Washington, is president-elect for 1912. Dr. Frank S. Churchill of Chicago is chairman of the local committee of arrangements; the other members of the committee include Dr. Isaac A. Abt, Mrs. Arthur Aldis, Dr. William A. Evans, Dr. Clifford G. Grulee, Dr. Caroline Hedger, Mr. Sherman C. Kingsley, Mr. Robert Stevenson and Dr. Frank X. Walls. Among the reports to be presented will be one on birth registration, by Dr. Wilmer R. Batt, State Registrar of Vital Statistics, Harrisburg, chairman of the association's committee on that subject.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Oct. 21, 1911.

Despatch of Another British Commission for the Investigation of Sleeping-Sickness

The British government is sending out a further commission to Central Africa to investigate sleeping-sickness. This will be in charge of Col. Sir David Bruce, assisted by Captain Hamerton of the army medical corps, and Professor Newstead of the Liverpool School of Tropical Medicine. The work will be confined to Nyassaland. An interesting point is that the trypanosome of the disease is believed to be conveyed in this country by a fly other than the tsetse, which is the carrier in other parts of central Africa, for none of this species has yet been found in Nyassaland. The commission, which is going out under the auspices of the Royal Society, is expected to be absent from England for three years. One of its principal objects is to ascertain whether the fly which is supposed to convey the disease depends on the presence of big game. If this is proved to be so it may involve the wholesale destruction of wild animals.

Foundation of a Eugenics Laboratory

An appeal is being made for $75,000 to build a eugenics laboratory in connection with the University of London. As stated in a previous letter (THE JOURNAL, April 8, 1911, p. 1048), Sir Francis Galton left the residue of his estate to the University of London for the endowment of a professorship and laboratory for national eugenics, expressing the wish that the university would see fit "to preserve the capital thereof wholly or almost wholly intact, not encroaching materially on it for cost of building, fittings or library," as the income from his bequest was insufficient to cover both endowment and adequate buildings. In accordance with his suggestion, Prof. Karl Pearson, F.R.S., has been appointed first Galton professor, assisted by a staff of highly trained workers, who now find very insufficient accommodation in a few small rooms temporarily placed at their disposal at University College. The output of the laboratory in the form of original investigations has been very large, and on the ground that the institution has already been of great value and will render increased public service with its fuller development, the University of London feels justified in sanctioning an appeal for such external aid as will enable the staff to carry out effectively this portion of their functions. There can be no doubt that the laboratory has before it plenty of work of important social value. It is now in possession of material received from educational and health authorities in all parts of the country, which alone would require three or four years' labor for the existing staff to analyze and publish, and the bulk of it has direct bearing on the most important social and national problems of the day.

Reform of the Naval Medical Service

In a previous letter (THE JOURNAL, Sept. 23, 1911, p. 1065) considerable reforms in the naval medical service, including the establishment of a new and more modern school at Greenwich, was described. New regulations with regard to the service have now been issued. The limit of age of admission is 28. Every candidate must be interviewed by the director general, who will decide whether such candidate will be allowed to enter for the examination. About thirty commissions will be competed for annually, but the admiralty reserves the power to admit each year six colonial graduates who may be specially recommended by the colonial universities. A successful candidate will be appointed acting-surgeon and is required to pass through a course of six months' study. He will then be reexamined and, if he passes, given a commission as surgeon. His position in the examination determines his seniority. Considerable encouragement is given to candidates to hold house appointments in civil hospitals. Any successful candidate holding or about to hold the office position of resident medical officer is allowed to complete his period of office, and the time so occupied counts for his general service in the navy, though he will not receive pay for it. The course of study during the probationary six months is extensive. In the first two months the acting-surgeon is required to cover the ground of tropical medicine, bacteriology and clinical pathology, hygiene and skiagraphy. This work will be done at the new school at Greenwich. The remainder of the probationary period will be spent at the old naval school at Haslar in learning the routine peculiar to the naval surgeon. If the examination at the end of this course is duly passed, a final one will follow toward the end of the eight years' service. After this each officer will be required to attend a six months' course of postgraduate study and to pass an examination which will qualify him for the rank of staff-surgeon. After eight years' service as staff-surgeon he will be eligible for promotion to fleet-surgeon. The pay of substantive rank has not been altered, but increments of pay are given more frequently than heretofore—every two years. After eight years' service the pay is $5 a day, while staff-surgeons go up to $2,130 a year and fleet-surgeons to $3,340, deputy surgeon-generals to $4,100 and surgeon-generals to $6,500. It must be borne in mind that in addition to the pay the extras and allowances are considerable. A feature which is very likely to attract men to the service is the generous scale of retired pay. After so short a period of service as four years a surgeon may retire with a gratuity of $2,500, and the gratuity is increased by this amount for every additional four years' service up to $10,000, while the pay of retired men who have served from twenty to thirty years varies from $5 to $10 a day.

A Pharmacist Refuses to Supply an Antidote in a Case of Poisoning

An inquest has been held on a clerk who took hydrochloric acid. He was taken to the shop of a pharmacist, who refused to give an antidote. The pharmacist said that it was not his duty to prescribe and that the man should be taken to a hospital. A little chalk and water was asked for and was also refused. Some whiting, obtained elsewhere, was administered. The man was taken to a hospital, where he died. The house-surgeon gave evidence to the effect that if chalk and water had been promptly administered the man's life might have been saved, but admitted that the pharmacist acted within his legal rights in refusing to "prescribe." The jury refrained from expressing any opinion on the subject. The case has not given rise to any comment in the medical or lay press. Of course, the former would in general approve of a pharmacist refusing to prescribe, as one of the stock topics is the grievance of the profession from "counter prescribing" by pharmacists. But surely the pharmacist was wrong in refusing to supply the antidote, and was wanting in both common sense and in humanity. He might have remembered that while it was not his duty as a pharmacist to prescribe, it was his duty as a man to do what he could for a human being in danger of death when medical aid was not available. What would be thought of a layman who saw a person bleeding to death from a wound and refused to try to stop the flow because he was not a surgeon? In this case the refusal was less excusable because the pharmacist possessed technical knowledge which would have enabled him to deal with the case.

The Workmen's Compensation Act

The Workmen's Compensation Act has given rise to some very difficult legal problems. Drawn up in the widest possible manner so as to make the employer liable for any accident "arising out of" the employment, attempts are made to make it cover almost any misfortune which can befall a workman. At Edinburgh, recently, the widow of a gardener, who lived in his own house and had a garden of his own at which he worked, claimed compensation because he died of tetanus. One morning after returning from his master's garden he cleaned his boots without taking them off and in doing this he tore his thumb, under the nail, against a lacing hook in one of the boots. Four days later tetanus began and he died from the disease. There was no evidence to show how the dirt under the nail was obtained but considering the nature of his employment and the fact that the bacillus of tetanus is generally found in manure and leaf-mold, the judge held that it was reasonable to hold that it was obtained when working in his master's garden, but, on the ground that the accident did not arise out of the gardener's employment, he refused compensation. An appeal was made to a higher court where the judge again refused compensation as the man, after leaving his master's premises, was no longer in the latter's employment. He was at liberty to attend to his own affairs, and the accident was not met with in the course of his employment. It had been maintained that the bacillus got into his thumb while he was working in his employer's garden. Even assuming this, it must be shown that it attached itself to his body while he was working for his master. In another case a hatter claimed compensation because he contracted mercurial poisoning while engaged in his trade. The employers maintained that they did not use mercury and that it must have been in the fur which they bought. The judge held that it could not be said that the workman was employed in a mercurial process when the employer did not provide the mercury or even know that it was there.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Oct. 13, 1911.

The Twenty-Fourth Meeting of the French Surgical Association

The Association française de chirurgie held its twenty-fourth meeting, October 2, under the presidency of Dr. Paul Segond, professor of clinical surgery at the Faculté de médecine de Paris, and surgeon of the hospice de la Salpêtrière. Among those present were many foreign surgeons, notably Arbuthnot Lane of London, Thomson of Edinburgh, E. Laplace of Philadelphia, Charles L. Gibson of New York, W. B. Coley of New York, Sonnenburg of Berlin, Jules Boeckel of Strassburg, Depage of Brussels, Lanz of Amsterdam, Tavel and Girard of Berne, etc.

Dr. Segond read a paper on collaboration between physicians and surgeons. It will be remembered that last year Dr. Delagenière, who then presided, reproached physicians with sending their patients too late to surgeons. His remarks elicited lively protest (The Journal, Nov. 5, 1910, p. 1660). Dr. Segond was more conciliatory. He recognizes that in many circumstances it is very difficult for the surgeon to see clearly without drawing constantly on the more refined means of medical investigation and the special information furnished by the experienced observation and judgment of the physician. In more than one visceral disease the aid of medicine is not only useful and desirable but altogether indispensable. Trepanning, which for many centuries was exclusively surgical, has now become, thanks to its new application, a medico-chirurgical operation *par excellence*. Sometimes it is the appreciation of evident signs which is difficult for the surgeon. Sometimes a uremic patient with headache, vomiting and amaurosis is in danger of being taken to the operating-room as a subject of intracranial neoplasm. There is, therefore, no possible progress in surgical neurology without medical collaboration.

Three subjects were discussed.

DIAGNOSIS AND TREATMENT OF CHRONIC APPENDICITIS

This question continues to hold its interest, judging by the forty-five speakers who enrolled themselves to take part in the discussion. It was necessary to reduce to five minutes the time accorded to each speaker.

According to Dr. J. Silhol, assistant professor at the Ecole de médecine de Marseille, the diagnosis of chronic appendicitis is made especially on the following elements: spontaneous pain which may be aberrant, fixed elicited pain, sometimes deceptive, indefinite digestive symptoms, general symptoms, which are important but not characteristic. Altogether the diagnosis is rather the result of a "special clinical sense" than of a close study of observed symptoms. Dr. Silhol considered, however, that the radioscopic examination was very useful and that it deserved to be systematically employed.

The treatment of chronic appendicitis was the subject of Dr. Charles Walther, surgeon of the hospitals of Paris and *agrégé* professor at the Faculté de médecine de Paris. If operation becomes imperative in cases of general predominating infections with gastric symptoms in which pains are very sharp, etc., the case is quite different from what it is when appendicitis accompanies biliary lithiasis, lesions of the uterine adnexa, movable kidney, etc. Under such circumstances each case deserves exhaustive study, but most frequently the removal of the appendix is to be recommended. As for the technic, Dr. Walther recommends general anesthesia and the incision which causes the least trauma. It is necessary to cover the stump with peritoneum and not confine oneself to excision alone. It is indispensable to make a wide and methodical exploration of the region, for one may have to deal at the same time with several complications in the epiploon of the colon. The after-treatment, which is often neglected, has great importance. It is not to be recommended that patients be allowed to leave their beds early in complicated cases. Feeding should be carefully supervised. The kidneys should be carefully watched during the first days. The emission of the first gases should be facilitated by suppositories and enemas and a purgative on the fourth day. Phlebitis is a complication which must be reckoned with. Cases of evident phlebitis are ordinarily observed in the left leg. Cases of latent phlebitis, which are more frequent, make themselves known by embolisms, generally pulmonary.

Dr. Laplace of Philadelphia insists on the good results given after appendicectomy by the Murphy proctoclysis, which now renders drainage less necessary. Suppuration and gangrene are not the clearest indications for drainage. The cases in which drainage are indicated, on the contrary, are those in which there is no suppuration, but a vivid redness of the intestine. Gauze drainage is often much better than tube drainage. Dr. Sonnenburg of Berlin, in cases in which the disease is hard to diagnose, recommends radiography, which, however, gives results only if the appendix communicates with the intestine, for it is indispensable that the bismuth should penetrate it. He insists on the rôle of pericolitis, while believing that one ought to remove the appendix in the first place, since this operation affords a certain relief to the intestinal lesion. Dr. Richelot of Paris protests against the idea that appendicitis is only a small part of a very complicated condition—a kind of general auto-infection. Dr. Lanz of Amsterdam recommends that too deep palpation be not used whatever the difficulties in diagnosis, for sometimes deep hematomas may be caused by such means. Dr. Girard of Berne remarks that the Rovsing procedure for eliciting pain at the level of the sacrum is unreliable, but it may be perfected by the aid of rectal insufflation.

TREATMENT OF ACUTE PERITONITIS

Dr. Hartmann, professor of operative medicine at the Faculté de médecine de Paris, remarked that for twenty-five years the chief ideas in the treatment of acute peritonitis have undergone a double evolution. Treatment, exclusively medical at first, then became exclusively surgical; the path thereupon was retraced, and treatment with immobility, diet and ice accepted. This treatment, however, is dangerous. It is now established that an acute peritonitis may be cured when once its cause is removed, even though the whole of the infectious material has not been removed. The basis of treatment when an exact diagnosis has been reached (and it must be reached), consists in suppressing the cause of the trouble. When operative treatment is necessary, preparation for the operation should be simplified. Tincture of iodin is sufficient to disinfect the skin. After general anesthesia, incision should be made according to circumstances. Lavage and evisceration should be avoided. The important thing is to drain well.

Dr. Témoin of Bourges in his paper emphasized the importance of the treatment popularized in the United States by the Fowler brothers and Murphy. All the French surgeons who have used Murphy's method have obtained excellent results. When Murphy's irrigations are not well tolerated the intestine may be irrigated by Billington's procedure after appendicostomy or cecostomy. In all this, however, it is necessary to act promptly and swiftly. This is the secret of success.

OPEN TREATMENT OF FRACTURES

The discussion showed that none of the methods of open treatment of recent fractures is absolutely free from danger. As Dr. L. Bérard of Lyons recognized in his paper, surgery of bones is the province of experienced operators who are able to surmount the difficulties found at every step. There are, however, certain contra-indications. If, indeed, old age is not always a reason to abstain from the open treatment, diabetes, albuminuria, badly compensated heart lesions and visceral scleroses are permanent or temporary obstacles. In all recent closed fractures one should always begin by the use of bloodless methods. The period of traumatic shock should be allowed to pass in order to permit the retrocession of muscular hematomas and articular effusions. Nascent infections may thus be avoided. One should then wait eight or ten days, employing the time by making radiographic examinations; thus the number of operations may be reduced. Dr. Tuffier of Paris was an enthusiastic partisan of osteosynthesis, but many other surgeons made important reservations. Dr. Koch of Groningen, Dr. Lucas Championnière of Paris, Dr. Depage of Brussels, etc., considered suturing of the bones a procedure to be employed only in exceptional cases. The perfect anatomic coaptation of the fragments is not at all necessary for the good functioning of a member. It is necessary also to bear in mind that the presence of a foreign body in the bones often produces complications, and after suture there may be delay in bony consolidation.

THE SURGICAL ASSOCIATION AND DR. DOYEN

At the last session of the association there was a significant occurrence. Dr. Doyen took the floor to proclaim the curative action of "mycolysine," a product of his own invention, which he has already declared repeatedly in the daily papers, "is to transform if not to render completely useless all operative technic of the present day." The audience experienced a certain discomfort. Some foreign surgeons expressed their regrets at hearing, on the floor of a scientific organization of as high order as the Association française de chirurgie, journalistic and sensational communications intended for advertising purposes. A resolution was even offered that henceforward no one should advertise pharmaceutical products before the association. Unfortunately the rules of the meeting prevented this resolution being put to the vote.

The Next Congress of the International Surgical Society

The International Society of Surgery, which was founded at Brussels in 1902, and is composed exclusively of surgeons, has just held its third congress, September 26 to 30, at Brussels. The society has broken with tradition. The next meeting, the first one to be held outside of Brussels, will be held in 1914 in New York under the presidency of Dr. Depage of Brussels.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Oct. 13, 1911.

Personal

Professor König of Greifswald has been appointed as the successor of Professor Friedrich as director of the surgical clinic at Marburg. Professor Pels-Leusden, for many years first assistant at the surgical clinic at the Charité, has received a call as director of the surgical clinic at Greifswald in place of Professor König.

As successor of von Pirquet, Professor Pfaundler has been nominated to the first place for director of the pediatric clinic at Breslau.

Professor Strasburger of Bonn has been called as successor of the deceased Professor Stern of Breslau. It is scarcely to be expected, however, that he will accept the call.

Medical Inspection of Corpses Before Cremation

According to the directions for the administration of the cremation law an official medical certificate as to the cause of death is required. The necropsy shall be undertaken as soon as possible after death. The official certificate as to the cause of death must give an exact statement as to the manner in which the death was produced. The conduct of the necropsy by artificial light is not permissible, and it should be undertaken by the method most adapted to promote the main purpose of the law, namely, to prevent the concealment of a criminal action by which the death was brought about. By a thorough questioning of the relatives and of the attending physician the medical official shall obtain an exact picture of the course of the disease immediately preceding death and the circumstances under which death resulted.

Tuberculosis Mortality in Prussia in 1910

According to the recently prepared official statistics the tuberculosis mortality in the kingdom of Prussia in the year 1910 has undergone a further reduction. Compared with 1908 the number of deaths was reduced by 2,841 and compared with 1909 by 392. The figures for 1910 are the lowest which have been obtained since 1875, that is, since the establishment of the Prussian statistical bureau. Still even in 1910, 60,479 persons died of tuberculosis in Prussia; 31,090 males and 29,389 females. Of the different ages those between 30 and 40 afford the greatest number, namely, 5,242 men and 5,572 women. The greatest rate reckoned for 100,000 living is shown by the age group from 50 to 60; of these 30.84 men and 16.89 women died. With reference to 100 deaths the greatest number of tuberculosis cases occurred between the ages of 20 to 25 years, that is, 41.69 men and 47.00 women. The relatively marked reduction of tuberculosis mortality in infancy is notable; there were in 1910 reckoned for 100,000 living, 20.92 deaths as opposed to 20.68 in the year 1909 and 26.68 in 1908. The entire number of infants who died of tuberculosis in 1910 amounts to 2,267.

Comparative Experiments with the Roman and German Print and Handwriting

In the active discussion of the advantages of the Roman and German scripts now going on, Professor Groenouw, the Breslau ophthalmologist, has made an interesting contribution. He undertook experiments by which he endeavored to answer the question which of the two scripts is easier to write or read, in order to obtain a more reliable basis than the previous subjective observations and impressions could give. The most varied series of experiments were arranged by which two different texts of a story, one printed in Roman and the other in German type were submitted. From this was shown that in a dictation lasting from three to five minutes, thirty-four German and thirty-nine Roman syllables could be written in a minute, that is, 15 per cent. more with the Roman method. One can write as much in the Roman in seven hours as in the German in eight. The persons experimented on were naturally equally accustomed to both forms of writing; with one exception they, as a rule, employed the German writing. Of the dictation matter written in the German handwriting, Professor Groenouw could read 341 syllables to the minute and of the Roman 358, that is, 5 per cent. more. The difference in reading of printed matter was not so marked: in the mechanical reading of a text, out of nine repeated trials the Roman type was read quicker seven times, from nine to fifty syllables more to the minute, but in two trials the German print was read faster at the rate of about seventeen to thirty-nine syllables per minute. In reading aloud, an average of 344 syllables of the German print were read per minute as compared with 365 of the Roman. In general the Roman script is superior to the German with regard to its legibility but only to a slight extent. That it is quicker to write, depends on the fact that it requires fewer strokes of the pen than the other; the German *a*, he says, requires six while the Roman requires only two. In one minute Groenouw could write this letter eighty-two times in German and 120 times in Roman. That the Roman print is read somewhat faster by some persons than the German is referable to a number of reasons, principally to the fact that certain German letters, particularly the capitals, in spite of their complex character, are not so easy to distinguish from each other and therefore require a somewhat longer time for their recognition.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Oct. 10, 1911.

A Dental Clinic for School Children

The efforts of a private society, the Austrian Society for the Care of the Teeth, have resulted in the erection of a model institute in the western part of Vienna, which will form the nucleus of a series of similar clinics. This *Schulzahn-Klinik* is a special small building containing a waiting-room, a surgery, a room for the extraction of teeth, a hall for resting after the operation, and is fitted completely up to date in all respects. It will serve as a dental clinic for the children of five schools, mustering some 4,000 boys and girls, between the ages of 6 and 14. As elementary teaching is compulsory with us, all children must go to school. The examination of the teeth of these youngsters was made during the last two years. Nearly all children in Vienna have thus been seen by several competent dental surgeons, whose reports were the bases which served to justify the action of the above-mentioned society. It has been shown that in the majority of cases there were always carious teeth present; in fact, a child with all teeth healthy was an exception. In the poorer districts, no care at all was given to the mouth and teeth by the parents, while in the wealthier districts the children had their mouths cared for, but not systematically. 28 per cent. of all affected children had one tooth carious, 24 per cent., two teeth, 26 per cent., three teeth, while the remainder had four or more teeth diseased. (No mention is made whether this includes such teeth as had been filled up or stopped, or whether only manifestly diseased teeth were considered.) A collection supported by the medical circles resulted in the provision of funds sufficient for the erection of a clinic, and the services of two able dental surgeons were secured. All children deemed fit by the school teacher will be sent to the clinic to be examined and treated. No fee is paid, but only poor children are treated, while those able to pay are advised to see their regular or another dentist. Within a few years, four more clinics of this type will be completed in Vienna.

Marriages

Frank Pennybacker White Hough, M.D., U. S. N., to Mrs. Helen Stewart Spanton of New York City, at Greenwich, Conn., October 14.

Joseph Taber Johnson, M.D., Washington, D. C., to Mrs. Mary Elizabeth McCann, at New Rochelle, N. Y., October 6.

Ernest P. Magruder, M.D., Washington, D. C., to Miss MacGregor of Edinburgh, Scotland, October 23.

Edwin Dial Watkins, M.D., to Miss Minnie Bowles James, both of Memphis, Tenn., October 31.

Walter M. Kingsbury, M.D., to Miss Mary Elizabeth Lane, both of Malden, Mass., October 10.

Sylvan H. Likes, M.D., Baltimore, to Miss Mamie B. Leopold, at Baltimore, October 18.

Roscoe C. Metzel, M.D., Baltimore, to Miss Daisy L. Hines, at Baltimore, October 19.

Albert Louis Mathieu, M.D., to Miss Beulah Akin, of Carlisle, Ind., October 19.

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Oliver J. Gray, M.D. University of Maryland, Baltimore, 1902; a member of the Delaware State Medical Society; died at his home in Wilmington, September 29, from pneumonia, aged 31.

Charles Frederick Patterson, M.D. Dartmouth Medical School, Hanover, N. H., 1896; a member of the American Medical Association; died at his home in Rye, N. H., October 17, aged 44.

William Newton Enochs, M.D. Vanderbilt University, Nashville, Tenn., 1888; for several years physician of Carroll County, Tenn.; died at his home in Huntingdon, October 14, aged 46.

David A. Thompson, M.D. Medical College of Ohio, Cincinnati, 1868; a veteran of the Civil War; died at his home in Elizabethtown, Ind., October 17, from heart disease, aged 67.

Robert Boyd Cabell, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1883; formerly of De Witt, Mo.; died at his home in Dolores, Colo., October 4, aged 64.

Jerome D. Bruce, M.D. Jefferson Medical College, 1856; of Sanford, Fla.; a member of the Florida Medical Association; died in Jacksonville, September 28, aged 75.

John W. Baker, M.D. Memphis (Tenn.) Medical College, 1901; of Prescott, Ark.; died in a hospital in Fort Worth, Tex., June 24, from nephritis, aged 37.

Hal B. Canine, M.D. University of Louisville, 1889; died suddenly at his home in Watertown, N. Y., October 1, from acute gastritis, aged 55.

Esrow B. Crow, M.D. Starling Medical College, Columbus, O., 1865; died at his home in Ridgeway, O., October 12, aged 77.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing, and to Oppose Medical Fraud on the Public and on the Profession

"ELECTRO-RADIO" FAKERS

They Tried to Buncombe Buncombe, But Failed

The following communication, to which reference is made in the editorial department of this issue, shows what may be done by an energetic county medical society to protect the public from frauds. It is sent in by a committee appointed by the Buncombe (N. C.) County Medical Society:

"A group of men calling themselves 'doctors' and going by the names of Whittam, Smith and E. D. Brantley, located in Asheville, N. C., about July 1, 1911. They rented a suite of offices, fitted up with handsome furniture (bought on time), and commenced running a series of highly colored advertisements in both local papers of their offices, equipment and skill. In the 'classified' columns they also advertised for a physician registered in North Carolina.

"By their 'wonderful equipment' and 'astounding skill' they asserted they could cure all diseases without the aid of a surgeon's knife or medicine. Their offices soon became crowded, and it was generally understood that they were extracting large sums of money from their patients for the guaranteed cure of everything from paralysis to a run-down feeling. It furthermore became known that they were giving medicine.

"A committee was appointed by the Buncombe County Medical Society to investigate their merits or demerits. The first few days were fruitless, and by legal authority we were informed that unless we could show that they were giving medicine, they could continue their fraudulent practice under the guise of electricity and radium.

"At this time in the August 19, 1911, issue of The Journal of the American Medical Association there appeared a timely article in the 'Propaganda for Reform' department on 'Mayr's Wonderful Stomach Remedy, Another Fake Gall-Stone Cure.' This seemed to fit some of the cases which they were purporting to cure of gall-stones. After searching around a few days we found a reliable witness, who had received the 'gall-stone treatment,' as described in the above-mentioned article. [The 'treatment' here referred to consists essentially in giving the victim a massive dose of olive oil, followed by a saline. The patient is made to believe that the soapy concretions, that are discharged following this procedure, are gall-stones. —Ed.]

"Warrants were then issued for these 'doctors,' charging them with giving *medicine without a license and doing a* fraudulent practice. It seems that they had been unable to secure a licensed physician. Had they been successful, I doubt if they could have been prosecuted.

"In the process of serving warrants these 'doctors' duped the officer, and, as he returned to headquarters for more information, they hurriedly left their offices and 'skipped' town.' The committee was rewarded, however, as the daily newspapers wrote up the exposure, and there was no attempt on the part of the experts to return. By ridding Asheville, however, they will be thrust on another unsuspecting public, and we hope that by calling attention to this prosecution in The Journal they will be caught and prosecuted elsewhere.

"The newspaper and various creditors secured writs for their equipment, which was found to be the cheapest of electrical appliances, and some of the patients were able to attach a portion of their fat bank account. It is believed that, in a few short weeks, they extracted several thousand dollars from our innocent townspeople.

"*The Buncombe County Medical Society directed that* we send to The Journal of the American Medical Association the above report, hoping that its appearance in the pages of The Journal will apprise other communities.

"The committee suggests that it is high time some legislative action be taken for the protection of the public against the exploiters of fake electrical methods of treatment. It is thought by our legal authority that the making of a diagnosis, giving an opinion, applying electrical treatment and charging a fee really amounts to the practice of medicine, and that it should be in licensed hands.

"We further call the attention of the profession to the fact that most of these advertising electric concerns do, as a matter of fact, give drugs, and it is no wonder that electro-therapeutic methods are in such disrepute with the laity, since any faker can legally use them.

"The committee desires to acknowledge the value of the investigations of fraudulent practices that are now being propagated by The Journal, and to call attention to this specific instance.

"C. V. Reynolds, M.D., Chairman,
"A. W. Calloway, M.D.,
"Eugene B. Glenn, M.D.,
"Committee."

CONVICTIONS UNDER FOOD AND DRUGS ACT *

(Concluded from page 1473)

ROYAL LITHIA WATER

William H. Anderson of Waukesha, Wis., sold another of the so-called lithia waters, which contained an unweighable quantity of lithium. It was labeled as a cure for rheumatism, gout, dropsy, etc. It was very evidently misbranded; a charge to which the defendant pleaded guilty and was fined $25. —[*Notice of Judgment, No. 1032.*]

RADIO-SULPHO CANCER CURE

This impudent fraud, which has already been exposed in The Journal[1] was exploited by one Philip Schuch, Jr., of Denver. He also sold, as an accessory, a nostrum which he called Radio-Sulpho-Brew. Radio-Sulpho was an alleged cancer cure; Radio-Sulpho-Brew a "Blood Purifier." Analyzed by the government chemists, Radio-Sulpho was found to consist of a solution of sulphur and sodium hydroxid in water. In this connection it will be remembered that the Colorado state chemist characterized this malodorous combination as "a bad smell capitalized for a million dollars." Radio-Sulpho-Brew was found to be essentially nothing more than a solution of

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* Descriptions of ninety convictions previously reported in popular form in The Journal are issued as an illustrated pamphlet, entitled "Convictions," price 6 cents.

[1] The Journal A. M. A., Dec. 3, 1910; also "Nostrums and Quackery," pp. 68-70.

Deaths

John S. Beck, M.D. University of Pennsylvania, Philadelphia, 1868; a member of the American Medical Association, president of the Second Councilor District Medical Society of Ohio; a member of the Mississippi Valley Medical Association; physician and chief of staff of the Miami Valley Hospital; president of the Montgomery County Board of U. S. pension examining surgeons; supreme medical director of the Fraternal Censer; a public-spirited practitioner of Dayton, and a leader in all advance measures for health and sanitation and the safeguarding of the health of the community; died at his home in Dayton, October 19, from cerebral hemorrhage, aged 69.

Albert C. Wedge, M.D. Western Reserve University, Cleveland, 1857; a pioneer practitioner of Minnesota; a member and formerly president of the Minnesota State Medical Association and once president of the Albert Lea District Medical Society; a member of the Minnesota House of Representatives in 1870-1871, and state senator in 1879-1880; surgeon of the Third Minnesota Volunteer Infantry during the Civil War; one of the most prominent citizens of Freeborn County, a man of strong character, and yet genial and lovable; died at his home in Albert Lea, October 23, from pneumonia, aged 77.

Hermann Kiefer, M.D. University of Heidelberg, Germany, 1849; a member of the American Medical Association, and American Academy of Medicine; formerly United States Consul at Stettin, Germany; formerly city physician at Detroit, and president of the Detroit German Clinic; a regent of, and professor emeritus of practice of medicine in the University of Michigan, Ann Arbor; died in Detroit, October 11, three days after a surgical operation, aged 86.

Thomas Crain Evans, M.D. Hospital College of Medicine, Louisville, 1884; former dean and professor of ophthalmology, otology and laryngology of the medical department of Kentucky University, and of the merged medical schools the University of Louisville; a specialist on diseases of the eye, ear, nose and throat; an excellent organizer and a most lovable character; died at his home in Louisville, October 26, from chronic interstitial nephritis, aged 50.

Rufus Dodd Mason, M.D. State University of Iowa, Iowa City, 1887; a member of the American Medical Association, American Proctologic Society and Medical Society of the Missouri Valley; professor of rectal and pelvic surgery in the John A. Creighton Medical College, Omaha; surgeon to St. Joseph's Hospital, Omaha, and consulting surgeon to Mercy Hospital, Council Bluffs, Ia.; died at his home in Omaha, October 18, aged 51.

Benjamin N. Baker, M.D. Pennsylvania Medical College, Gettysburg, 1856; a member of the American Medical Association; a veteran of the Civil War and one of the oldest practitioners in Dutchess County, N. Y.; assistant surgeon of the First New Jersey Volunteer Cavalry and surgeon of the Twenty-Sixth New Jersey Volunteer Infantry during the Civil War; died at his home in Rhinebeck, N. Y., October 19, aged 78.

Louis Harvey Jones, M.D. Tulane University, New Orleans, 1887; a member of the American Medical Association; formerly a resident of Atlanta, and a member of the board of health; professor of chemistry and medical jurisprudence in the Atlanta College of Physicians and Surgeons from 1890 to 1908; formerly secretary and treasurer of the Medical Society of Georgia; died at his home in St. Petersburg, Fla., October 9, aged 53.

Daniel Webster Crouse, M.D. Long Island College Hospital, Brooklyn, 1869; a member of the American Medical Association and a member of the Judicial Council in 1894 and 1897; formerly president of the Iowa State Medical Society; for thirty-seven years a practitioner of Waterloo, and district surgeon of the Rock Island and Illinois Central systems; died in Citronelle, Ala., October 11, from tuberculosis, aged 66.

Robert L. Burrage, M.D. Bellevue Hospital Medical College, New York City, 1878; for twenty-one years a member of the medical staff of the Prudential Insurance Company and for a long time its medical director; who held a conspicuous position among life insurance specialists; died at his home in Orange, N. J., October 29, from valvular heart disease, aged 53.

Elisha Hopkins, M.D. Harvard Medical School, 1854; for more than half a century a practitioner of Searsport, Me., assistant surgeon of the Fourth Maine Volunteer Infantry, and Surgeon of the Fourteenth Maine Volunteer Infantry during the Civil War; died at his home, October 5, aged 82.

Allen George Rennison, M.D. National Medical University, Chicago, 1896; a member of the American Medical Association, and China Medical Missionary Society; medical director of Mapleview Sanitarium; while making a professional call near Sumner, Ia., October 6, was struck by a train and sustained injuries from which he died a few hours later, aged 41.

Henry P. Merriman, M.D. Chicago Medical College, 1865; a member of the Illinois State Medical Society, Chicago Gynecological Society and Chicago Physician's Club; at one time a member of the faculty of Rush Medical College; for forty years a practitioner of Chicago; died at his home in Santa Barbara, Cal., October 18, aged 73.

Charles Herman Mueller, Jr., M.D. Medical College of Ohio, Cincinnati, 1902; of Hyde Park, Cincinnati; aged 33; died at the home of his father in Cincinnati, October 11, from the effects of a bullet wound of the heart, believed to have been self-inflicted with suicidal intent while despondent on account of the ill health of his wife.

James Gass, M.D. College of Physicians and Surgeons, Baltimore, 1891; a member of the American Medical Association; and local surgeon of the Pennsylvania System at Sheffield, Pa., while driving his automobile over a grade crossing at Stoneham, October 22, was struck by a locomotive and instantly killed, aged 48.

George Malvern Ridgway, M.D. University of Pennsylvania, Philadelphia, 1899; of Trenton, N. J.; a member of the American Medical Association; pathologist to Mercer Hospital, and a specialist in diseases of the ear, nose and throat; died at the Eastern General Hospital, Bangor, Me., October 8, from nephritis, aged 37.

Adoniram Judson Matthews, M.D. Medical College of Georgia, Augusta, 1859; a member of the Medical Association of Georgia; surgeon in the Confederate service during the Civil War; local surgeon of the Southern Railway; died at his home in Elberton, February 5, from carcinoma of the face and throat, aged 76.

Julia Hibben Flagg, M.D. Medical College of Indiana, Indianapolis, 1890; a member of the Washington State Medical Association; attending physician to St. Joseph's Hospital, Vancouver; died at her home in that city, June 3, from injuries received in an accident in which she was thrown from a buggy, aged 46.

Anthony Miller, M.D. University of Louisville, 1879; a member of the Mississippi State Medical Association; a member of the board of trustees of the Mississippi Charity Hospital for several years; recently elected senator from Sharkey County; died suddenly at his home in Rolling Fork, October 7, aged 56.

Carl Crisand, M.D. New York Homeopathic Medical College, New York City, 1884; surgeon to the Worcester (Mass.) Hahnemann Hospital and president of the Worcester Oratorio Society; died at the home of Dr. J. E. Willis in that city, September 30, from cerebral hemorrhage, aged 53.

Albert J. Franklin, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1876; a member of the American Medical Association; a pioneer practitioner and for several terms coroner of Faribault County, Minn.; died at his home in Blue Earth, October 9, from cerebral hemorrhage, aged 69.

Lee Smith, M.D. Rush Medical College, 1856; for many years a member of the American Medical Association and for more than half a century an honored practitioner of Bloomington, Ill., one of the old-time family physicians; died at his home in Bloomington, October 16, aged 79.

Jansen Beemer Mattison, M.D. Bellevue Hospital Medical College, 1867; formerly a member of the Association for the Cure of Inebriety and the New York Academy of Medicine and medical director of the Brooklyn Home for Habitués of Opium, Chloral and Cocain; died September 26.

George Holman Snead, M.D. University of Virginia, Charlottesville, 1855; a member of the Board of Conscripts in the Confederate service during the Civil War; who, after several years of practice, became a clergyman; died at his home in Fork Union, Va., July 1, aged 79.

John A. Osborne, M.D. Medical College of Indiana, Indianapolis, 1879; a member of the Indiana State Medical Association; of Pittsboro; died at the Deaconess Hospital, Indianapolis, March 1, after an operation on the prostate gland, aged 69.

James Burke, M.D. Rush Medical College, 1887; of Gillett, formerly of Manitowoc, Wis.; a member of the American Medical Association; died at his old home in Wayside, Wis., October 12, from spinal disease, aged 55.

Oliver J. Gray, M.D. University of Maryland, Baltimore, 1902; a member of the Delaware State Medical Society; died at his home in Wilmington, September 29, from pneumonia, aged 31.

Charles Frederick Patterson, M.D. Dartmouth Medical School, Hanover, N. H., 1896; a member of the American Medical Association; died at his home in Rye, N. H., October 17, aged 44.

William Newton Enochs, M.D. Vanderbilt University, Nashville, Tenn., 1888; for several years physician of Carroll County, Tenn.; died at his home in Huntingdon, October 14, aged 46.

David A. Thompson, M.D. Medical College of Ohio, Cincinnati, 1868; a veteran of the Civil War; died at his home in Elizabethtown, Ind., October 17, from heart disease, aged 67.

Robert Boyd Cabell, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1883; formerly of De Witt, Mo.; died at his home in Dolores, Colo., October 4, aged 64.

Jerome D. Bruce, M.D. Jefferson Medical College, 1856; of Sanford, Fla.; a member of the Florida Medical Association; died in Jacksonville, September 28, aged 75.

John W. Baker, M.D. Memphis (Tenn.) Medical College, 1901; of Prescott, Ark.; died in a hospital in Fort Worth, Tex., June 24, from nephritis, aged 37.

Hal B. Canine, M.D. University of Louisville, 1889; died suddenly at his home in Watertown, N. Y., October 1, from acute gastritis, aged 55.

Esrow B. Crow, M.D. Starling Medical College, Columbus, O., 1865; died at his home in Ridgeway, O., October 12, aged 77.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING, AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

"ELECTRO-RADIO" FAKERS

They Tried to Buncombe Buncombe, But Failed

The following communication, to which reference is made in the editorial department of this issue, shows what may be done by an energetic county medical society to protect the public from frauds. It is sent in by a committee appointed by the Buncombe (N. C.) County Medical Society:

"A group of men calling themselves 'doctors' and going by the names of Whittam, Smith and E. D. Brantley, located in Asheville, N. C., about July 1, 1911. They rented a suite of offices, fitted up with handsome furniture (bought on time), and commenced running a series of highly colored advertisements in both local papers of their offices, equipment and skill. In the 'classified' columns they also advertised for a physician registered in North Carolina.

"By their 'wonderful equipment' and 'astounding skill' they asserted they could cure all diseases without the aid of a surgeon's knife or medicine. Their offices soon became crowded, and it was generally understood that they were extracting large sums of money from their patients for the guaranteed cure of everything from paralysis to a run-down feeling. It furthermore became known that they were giving medicine.

"A committee was appointed by the Buncombe County Medical Society to investigate their merits or demerits. The first few days were fruitless, and by legal authority we were informed that unless we could show that they were giving medicine, they could continue their fraudulent practice under the guise of electricity and radium.

"At this time in the August 19, 1911, issue of THE JOURNAL of the American Medical Association there appeared a timely article in the 'Propaganda for Reform' department on 'Mayr's Wonderful Stomach Remedy, Another Fake Gall-Stone Cure.' This seemed to fit some of the cases which they were purporting to cure of gall-stones. After searching around a few days we found a reliable witness, who had received the 'gall-stone treatment,' as described in the above-mentioned article. [The 'treatment' here referred to consists essentially in giving the victim a massive dose of olive oil, followed by a saline. The patient is made to believe that the soapy concretions, that are discharged following this procedure, are gall-stones. —ED.]

"Warrants were then issued for these 'doctors,' charging them with *giving medicine without a license and doing a* fraudulent practice. It seems that they had been unable to secure a licensed physician. Had they been successful, I doubt if they could have been prosecuted.

"In the process of serving warrants these 'doctors' duped the officer, and, as he returned to headquarters for more information, they hurriedly left their offices and 'skipped' town.' The committee was rewarded, however, as the daily newspapers wrote up the exposure, and there was no attempt on the part of the experts to return. By ridding Asheville, however, they will be thrust on another unsuspecting public, and we hope that by calling attention to this prosecution in THE JOURNAL they will be caught and prosecuted elsewhere.

"The newspaper and various creditors secured writs for their equipment, which was found to be the cheapest of electrical appliances, and some of the patients were able to attach a portion of their fat bank account. It is believed that, in a few short weeks, they extracted several thousand dollars from our innocent townspeople.

"The *Buncombe County Medical Society directed that* we send to THE JOURNAL of the American Medical Association the above report, hoping that its appearance in the pages of THE JOURNAL will apprise other communities.

"The committee suggests that it is high time some legislative action be taken for the protection of the public against the exploiters of fake electrical methods of treatment. It is thought by our legal authority that the making of a diagnosis, giving an opinion, applying electrical treatment and charging a fee really amounts to the practice of medicine, and that it should be in licensed hands.

"We further call the attention of the profession to the fact that most of these advertising electric concerns do, as a matter of fact, give drugs, and it is no wonder that electrotherapeutic methods are in such disrepute with the laity, since any faker can legally use them.

"The committee desires to acknowledge the value of the investigations of fraudulent practices that are now being propagated by THE JOURNAL, and to call attention to this specific instance.

"C. V. REYNOLDS, M.D., Chairman,
"A. W. CALLOWAY, M.D.,
"EUGENE B. GLENN, M.D.,
"Committee."

CONVICTIONS UNDER FOOD AND DRUGS ACT *

(Concluded from page 1373)

ROYAL LITHIA WATER

William H. Anderson of Waukesha, Wis., sold another of the so-called lithia waters, which contained an unweighable quantity of lithium. It was labeled as a cure for rheumatism, gout, dropsy, etc. It was very evidently misbranded; a charge to which the defendant pleaded guilty and was fined $25. —[*Notice of Judgment, No. 1032.*]

RADIO-SULPHO CANCER CURE

This impudent fraud, which has already been exposed in THE JOURNAL[1] was exploited by one Philip Schuch, Jr., of Denver. He also sold, as an accessory, a nostrum which he called Radio-Sulpho-Brew. Radio-Sulpho was an alleged cancer cure; Radio-Sulpho-Brew a "Blood Purifier." Analyzed by the government chemists, Radio-Sulpho was found to consist of a solution of sulphur and sodium hydroxid in water. In this connection it will be remembered that the Colorado state chemist characterized this malodorous combination as "a bad smell capitalized for a million dollars." Radio-Sulpho-Brew was found to be essentially nothing more than a solution of epsom salts. Both of these nostrums were declared misbranded on the grounds that they did not possess the therapeutic virtues claimed for them, neither did they possess radium or radio-active properties as their name would indicate. Schuch, Jr., pleaded not guilty but the jury held differently.—[*Notice of Judgment, No. 1049.*]

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LA SANADORA

Benigo Romero was the romantic name of a "patent medicine" exploiter who did business under the firm name of the Romero Drug Company in Las Vegas, N. Mex. La Sanadora was evidently sold chiefly to Mexicans, for the label was in Spanish. It was said to cure various things from "rheumatism" to "rump ache" and "twitching eye-brows" to "cholera." Analysis showed it to contain among various things:

Opium.
Alcohol.
Chloroform.
Oil of peppermint.
Ammonium hydroxid.
Water.

It was declared misbranded on two counts. First, because the label contained no statement of the amount of alcohol, chloroform and opium in the mixture; and second, because the product *would not cure the various ailments claimed.* Romero pleaded guilty to the first count and was fined $50. The second count was dismissed on motion of the United States attorney.—[*Notice of Judgment, No. 1076.*]

TUCKER'S ASTHMA SPECIFIC

This nostrum has been exposed at various times in THE JOURNAL.[2] It is exploited by a Dr. Nathan Tucker, Mt. Gilead, O. It contains cocain and is said to be a "specific for asthma, hay fever and all catarrhal diseases of the respiratory organs." The government declared the stuff misbranded on two counts: (1) It contained cocain and the label bore no statement of the quantity or proportion of this drug; (2) it was not a specific. Tucker pleaded not guilty, but the jury before whom the case was tried declared him guilty on the first count. Tucker's lawyer filed motions in arrest of judgment and for a new trial but both motions were overruled by the court and Tucker was fined $150 and costs.—[*Notice of Judgment, No. 1077.*]

PEEBLES' EPILEPSY CURE

This nostrum is exploited by a concern called "Dr. Peebles' Institute of Health" at Battle Creek, Mich. The treasurer and general manager of this so-called institute is W. T. Bobo, M.D., a quack who advertises to cure goiter. Peebles' so-called cure consists of two preparations, his "Brain Restorative for Epilepsy and All Diseases of the Brain and Nervous System" and his "Nerv-Tonic for the Blood and Nerves." Analysis by the Bureau of Chemistry showed that the "Brain Restorative" was a solution of ammonium, sodium and potassium bromids with an alcoholic preparation of valerian, flavored with bitter almonds. "Nerv-Tonic" was a sweetened watery-alcoholic solution of vegetable products containing no material having distinctive, active characteristics. The stuff was declared misbranded because of the falsity of the therapeutic claims. The company, by its treasurer, filed a plea of *nolo contendere* and was fined $5.—[*Notice of Judgment, No. 1079.*]

DETCHON'S RHEUMATISM CURE

I. A. Detchon of Crawfordsville, Ind., sold two nostrums called respectively, "Dr. Detchon's Relief for Rheumatism" and "Dr. Detchon's Relief for Rheumatism Tablets." Both of these preparations were formerly sold under the name "Mystic Cure" and "Mystic Cure Tablets," respectively. False, misleading and extravagant claims were made for both these products such as to constitute misbranding. Analyzed by the government chemists, "Dr. Detchon's Relief for Rheumatism" was found to consist essentially of sodium salicylate, sugar and water, while "Dr. Detchon's Relief for Rheumatism Tablets" was found to consist principally of sodium salicylate. Detchon pleaded guilty to the charges and was fined $200 with costs.—[*Notice of Judgment, No. 1091.*]

DR. LINDLEY'S EPILEPSY REMEDY

This nostrum which was exploited by one A. K. Hollowell under the alias New Vienna Medicine Company, was sold as a cure for epilepsy. Some of the claims made for it were:

"Produces perfect cures."
"May be taken as long as required without any fear of harm."
"A Positive Remedy for Epilepsy, Fits, Spasms, Convulsions and St. Vitus' Dance."

Analyzed by the Bureau of Chemistry, the "remedy" was found to be a solution of bromids in water and alcohol. It was declared misbranded both because of the falsity of the therapeutic claims and because the proportion of alcohol was not given on label. The defendant pleaded guilty and was fined $200 and costs.—[*Notice of Judgment, No. 1093.*]

Correspondence

Object-Lessons on Venereal Disease

To the Editor:—In view of the recent papers and discussions on the subject of venereal disease (THE JOURNAL, Sept. 23, 1911, p. 1052) and the excellent exposé of the Interstate Remedy Co. (THE JOURNAL, Oct. 7, 1911, p. 1222). it may be of interest to describe some of the details of perhaps the first evidence, on a large scale, that far-sighted business men are awakening to the importance of the popular teaching of hygiene, and especially of combating venereal disease.

The National Cash Register Company, of Dayton, O., has about 6,000 employees in its factory. A welfare department is maintained in the interests of the employees; and every man and woman must undergo a medical examination before going on the pay-rolls; venereal disease, if detected, at once bars an applicant from employment.

In spite of the unusual precautions, the officers of the company have long felt that their factories have nearly their full quota of gonorrhea and syphilis, and this last summer it was determined to secure the best possible series of object-lessons for the instruction of their men. The text-book plates usually used for this purpose were discarded and the slides for the lectures were made from actual life and were then colored by an artist from life, many weeks being spent on this alone and every phase of the venereal diseases being reproduced with startling faithfulness.

To make the subjects still more real, a moving-picture-in-color process was used; the films, machines and operator were imported and many venereal victims were taken in motion, removing their bandages, etc., and showing the terrible results of the disease in the most striking way, the natural colors being reproduced by photography. The subjects really seem to live, breathe and move before the audience.

For the practical protection of the auditors several fakes are exposed and their methods explained, among them being the subject of the article in THE JOURNAL, October 7.

It is the purpose of the National Cash Register Company to give these lectures repeatedly in their new auditorium during working hours, the employees hearing them in detachments of about a thousand at a time, and receiving full wages while they are attending. The officers are convinced that this will eventually pay them in dollars and cents, though the lectures have already cost several thousand dollars to prepare and the wages of the men, while hearing them, will amount to several thousand more.

Other lectures on the simple physiology of digestion, respiration and circulation, etc., with practical application to the selection of wholesome foods, the prevention and care of tuberculosis, the patent medicine frauds, etc., are now being prepared in the same elaborate manner and will be presented in a similar way during the winter.

This company believes that it pays to be well and keep well, and that a workman unhappy internally is an economic loss externally—and it apparently has the courage of its convictions.

F. M. LOOMIS, Ann Arbor, Mich.

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[2] THE JOURNAL A. M. A., Aug. 4, 1906; Aug. 28, 1906; March 16, 1907; Jan. 2, 1908; March 14, 1908; May 20, 1911; see also "Nostrums and Quackery," pp. 314-316

The Use of Bismuth and the X-Ray in Diagnosing Diseases of the Alimentary Tract, Etc.

To the Editor:—In May, 1899, I read, before the Chicago Medical Society, a paper entitled, "Original *X*-Ray Work and Its Value to Stomach Diagnosis," which was published in the *Philadelphia Medical Journal*, Aug. 26, 1899. THE JOURNAL commented on it Sept. 2, 1899. At that time I said, speaking of the *x*-ray: "I am within bounds when I say that the prevailing idea with the general practitioner has been that it is only of value to the surgeon . . . however, it is possible to recognize new growths, deformities, malformations, variation in the density of bone . . . calcareous infiltrations of various organs or tissues. . . . Some months ago I became convinced that I could make use of the *x*-ray in my special study of the stomach and alimentary tract, and later I made a study of the other cavities of the body. It is my pleasure to present to you the result of my experiments as to method, technic and apparatus, with brief reference to its value in stomach diagnosis. My claim is that the work is original, that the value of the method of examination is far in advance of any that we have heretofore used. By it the stomach can be definitely outlined, giving its size, shape and position. It is also possible to examine the transverse colon, fistulous tracts, uterus or bladder. This is accomplished by filling the stomach, cavities or tracts with what I have termed my bismuth emulsion. The bismuth emulsion is non-toxic, non-irritating and can be made antiseptic making it possible to fill any accessible cavity. In preparing for the skiagraphic examination . . . the stomach can be filled with the bismuth emulsion, using enough to bring the organ to the point of complete distention. . . . With the fluoroscope you will be able to note the outlines of the stomach, showing the lesser curvature. . . . The stomach can be studied from different views. . . . giving a definite idea of the normal movements of the organ and enabling us to diagnose motor insufficiency. . . . Radiographs of the stomach are unsatisfactory, because its normal movements, combined with the change in its shape and position produced by respiration [we had to expose twenty minutes at that time] makes it impossible to produce a clear outline on photographic plates. The best work is done with the fluoroscope."

In looking over medical literature I find that Rieter of Munich makes the claim that he was the first to have used this means of stomach diagnosis. This was in 1904, five years after the publication of my paper.

In January, 1908, E. G. Beck of Chicago, makes the claim to have been the first to have used the method of diagnosis in cases of fistula. Satterlee and LeWald in THE JOURNAL (Oct. 14, 1911, p. 1255), in speaking of *x*-ray examinations of the gastro-intestinal tract say that the method of employing some insoluble substance such as bismuth, etc., will soon be universally used.

WALTER B. METCALF, Chicago.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

TARIFF ON SURGICAL INSTRUMENTS

To the Editor:—Is a physician returning from a trip abroad compelled to pay duty on surgical instruments purchased for his personal use? N. S.

ANSWER.—This question was referred to the Treasury Department, Washington, D. C., and the following reply was received from James F. Curtis, the assistant secretary:

"Paragraph 709 of the tariff act of Aug. 5, 1909, provides that in the case of residents of the United States returning from abroad, all wearing apparel and other personal effects taken by them out of the United States to foreign countries will be admitted free of duty without regard to the value thereof, on their identity being established. Under this provision of Paragraph 709, physicians who are residents of this country would be entitled to bring back with them free of duty all surgical instruments taken by them from this country, provided that such instruments are not advanced in value or improved in condition while abroad. If any repairs are placed on these instruments while abroad, duty would be assessed on the value of such repairs only.

"The Board of United States General Appraisers in T. D. 30,270 of Jan. 13, 1910, following the decision of the United States Circuit Court of Appeals in U. S. vs. Bernays (158 Fed. Rep. 792), held that only such articles as were in the nature of wearing apparel and similar personal effects necessary or appropriate for the use of the persons having the same in possession for the purpose of the journey, might be included within the exemption of $100 allowed under Paragraph 709 to returning residents of the United States.

"The department's former construction of the said paragraph permitted such residents to bring back with them, free of duty, articles to the value of $100 acquired abroad with little regard as to the character thereof, but subsequent to the board's decision above referred to, this practice was changed to conform to such decision. Surgical instruments purchased abroad by physicians cannot be included within this exemption unless they are necessary and appropriate for the purposes of the journey and for personal comfort and convenience.

"Surgical instruments if composed wholly or in part of metal would probably be dutiable under the provisions of Paragraph 199 of the said act at the rate of 45 per centum ad valorem. Surgical scissors would be subject to duty as scissors under Paragraph 152 as follows: valued at not more than 50 cents per dozen, 15 cents per dozen and 15 per centum ad valorem; valued at more than 50 cents and not more than $1.75 per dozen, 50 cents per dozen and 15 per centum ad valorem; valued at more than $1.75 per dozen, 75 cents per dozen and 25 per centum ad valorem. Other surgical instruments would be dutiable under appropriate paragraphs of the tariff according to the component material of chief value."

STROPHANTHUS TINCTURE TENDS TO DECOMPOSE IN WATER

To the Editor:—In your interesting department of therapeutics, in the series you have been printing on prescription writing, I find under the head of "Incompatibility," October 14, page 1289, the following statement: "Strophanthus in the form of the tincture should not be prescribed in solutions containing water. It slowly forms a toxic substance when in water solution. I ask for further information, as this chemical action is not familiar to me.

N. D.

ANSWER.—We quoted this from Osborne's book on "Materia Medica and Pharmacology," ed. 1906, p. 92. The tincture of strophanthus may deteriorate even when undiluted. When diluted with water, fermentation takes place, and decomposition, souring and cloudiness soon occur. The tincture of digitalis, for instance, will stand much greater dilution and will keep for a much longer time than will the tincture of strophanthus without deterioration. The official strophanthinum is a glucosid or a mixture of glucosids, and is probably not often a single active principle, although a crystalline strophanthin has been separated and can now be obtained. This mixture of glucosids in the strophanthus of the official tinctura strophanthi seems to undergo changes when diluted with watery solutions and allowed to stand in an ordinary medicine bottle. It has been stated that such solutions have produced poisoning, although the term poisoning may be a little strong. As to the cloudiness caused by the addition of water to tincture of strophanthus, it is quite probable that this is due to the fixed oil which strophanthus contains; the seeds are stated to contain 30 per cent. of such an oil, as well as kombic acid.

METHOD OF APPROXIMATE ESTIMATION OF INDICAN IN URINE

To the Editor:—I noticed in THE JOURNAL (Oct. 21, 1911, p. 1386), a request for a method of quantitative estimation of indican in the urine. About ten years ago I suggested a very simple and fairly accurate method.

To 10 c.c. of the urine add 1 c.c. of a solution of lead acetate (25 per cent.) and filter through a double filter. To the filtrate add an equal volume of Obermayer's reagent (2 gm. of ferric chlorid to the liter of strong hydrochloric acid) and 2 c.c. of chloroform. Invert the tube several times, until the coloring of the chloroform asumes maximum intensity. If only a slight coloration appears the amount of indican is very small, and further testing would be useless. If the indican is present in appreciable amounts, however, add from a dropper, drop by drop, a solution of potassium chlorate (34.6 gm. per liter) until the color is discharged. The number of drops of the chlorate solution required to discharge the color may be taken as an index of the amount present. Normally, one to two drops are sufficient.

A. ROBIN, Wilmington, Del.

AVOID OILS AND ALCOHOL IN HOOKWORM TREATMENT WITH THYMOL

To the Editor:—For the treatment of hookworm disease I find that Osler's "Practice of Medicine" gives dangerous advice. The editions of 1900 and 1907 advise castor oil, and the 1907 edition, whiskey or brandy. A. C. Fisher, Emmerton, Va.

Comment.—An examination of the editions referred to shows that our correspondent is correct. We also find this dangerous advice given in the 1911 edition. Although we have called attention to this danger previously in the columns of The Journal, it is well to speak of it again. The danger to which our correspondent refers is that the thymol which has been given to kill the hookworm parasites may dissolve in the oil or alcohol, and then be absorbed by the body with more or less toxic—perhaps serious—effects. All oils and alcohol are to be scrupulously avoided until the thymol has passed out of the intestinal canal.

ELIMINATE THE TERM "ALLOPATH"

To the Editor:—In support of the committee of the Fulton County (Ga.) Medical Society, I beg to say that the word "allopath" was invented by Hahnemann, as was the epithet "old school" invented by so-called "eclectics," to apply to regular practitioners. See Webster's Unabridged Dictionary. Both epithets are used almost exclusively by irregulars and their friends.

A. G. Field, M.D., Des Moines, Iowa.

The Public Service

Medical Department, U. S. Army

Changes during the week ended Oct. 28, 1911.

Banister, W. B., lieut.-col., Oct. 20, in charge chief surgeon's office, central division.

Sheep, W. L., lieut., granted leave of absence for twenty days, about Oct. 20, 1911.

Stone, F. P., dental surgeon, reports arrival Oct. 16, 1911, Fort Morgan, Ala., for temporary duty.

Hart, W. L., captain, arrived at San Francisco, Oct. 19, from Manila.

Kean, J. R., lieut.-col., Oct. 23, reports departure from Washington, D. C., en route to Paris, France, to attend the International Sanitary Conference to meet there Nov. 7, 1911.

Kerr, R. W., lieut., ordered to Fort D. A. Russell, Wyo., at expiration of leave of absence.

Koyle, F. T., M.R.C., when *Kilpatrick* goes out of commission will return to his station, Fort H. G. Wright; arrived Oct. 24, 1911, for duty.

Sheep, W. L., lieut., left Fort Ethan Allen Oct. 20 on leave of absence for twenty days.

Wing, F. F., dental surgeon, Oct. 19, arrived at Fort Lincoln for temporary duty.

Pascoe, J. B., M.R.C., Oct. 20, returned to Fort Wood from leave of absence.

Chase, C. L., M.R.C., Oct. 19, left Fort Oglethorpe, Ga., for duty at Fort Dade, Fla.; arrived Oct. 22, 1911.

Kerr, R. W., lieut., Oct. 18, on leave of absence for two months; relieved from duty on transport *Sherman*.

Lewis, W. F., major, Oct. 16, returned to presidio, Monterey, Cal., from leave of absence.

Page, Henry, major, Oct. 15, arrived at San Francisco Oct. 16 on leave of absence for four months.

Pinkston, O. W., captain, leave already granted him is extended fifteen days.

Pariseau, G. E., lieut., detailed as member of the board at Panama to examine candidates for second lieutenant, Philippine scouts, vice Mason, C. F., lieut.-col., relieved from above board.

Maynard, E. B., M.R.C., reports his return to San Antonio, Tex., Oct. 21, from leave.

Griffin, A. M., M.R.C., Oct. 22, arrived at Fort Riley for duty.

Voorhies, H. G., dental surgeon, Oct. 21, returned to Jefferson Barracks, Mo., from leave of absence.

Gentry, E. R., lieut., relieved from duty at Fort Leavenworth, Kan., in time to take transport to sail from San Francisco Dec. 5, 1911, for the Philippine Islands, for duty on the board for the study of tropical diseases.

Lynch, Charles, major, will proceed to Pittsburgh on special duty in connection with the American Red Cross, and on its completion will return to his station in this city.

Boehs, C. J., M.R.C., Oct. 21, arrived at Fort Banks for duty.

Ingalls, R. E., dental surgeon, will leave Fort Douglas, Utah., Nov. 1, for Forts Yellowstone, W. H. Harrison and Missoula.

Richardson, W. H., captain, relieved from duty in the Yosemite national park and ordered to return to his station, Fort Miley, Cal.

Hart, W. L., captain, Oct. 22, arrived at Fort Sam Houston, Texas, for duty.

Shockley, M. A. W., major, Oct. 24, reports his arrival at Fort Niagara, N. Y., for duty.

The following named medical officers are assigned to and ordered to join the station set opposite their names: Foucar, F. H., lieut., Fort Du Pont, Del.; Whitham, J. D., lieut., Fort Monroe, Va.; Clark, A. P., lieut., Fort Williams, Maine; Willis, J. M., lieut., Fort Snelling, Minn.; Coulter, J. S., lieut., Amb. Co. 3, Fort Leavenworth, Kan.

McAlister, J. A., dental surgeon, on completion of his duties at Fort Bliss will proceed to San Antonio, Texas, to prepare his dental equipment for shipment and then return to his station, Fort Leavenworth.

Hill, F. R., lieut., granted leave of absence for one month, about Nov. 1, 1911

Society Proceedings

COMING MEETINGS

Am. Assn. for Prevention of Infant Mortality, Chicago, Nov. 16-18.
American Public Health Association, Havana, Cuba, Dec. 4-9.
Southern Medical Association, Hattiesburg, Miss., Nov. 14-16.
Southern Surg. and Gynecol. Assn., Washington, D. C., Dec. 12-14.
Western Surg. and Gynecol. Assn., Kansas City, Mo., Dec. 18-19.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION

Annual Meeting, held at Nashville, Oct. 17-19, 1911

(Continued from page 1479)

Diagnostic Aids in Surgery of the Renal Pelvis and Ureter, with Special Reference to Pyelography

Dr. W. F. Braasch, Rochester, Minn.: Radiography, cystoscopy, meatoscopy and ureteral catheterization are valuable aids in diagnosis, but may give an erroneous impression and often be insufficient. With pyelography one may be able to demonstrate changes in the outlines of the pelvis and ureter which accompany most surgical conditions of the kidney and ureter. Hydronephrosis may be accurately determined by the pyelograph. It is particularly valuable with small distention and with marked constriction of the ureter. By using these data one is able to identify renal shadows by inflammatory changes seen in the pelvis and ureter. Stone in the ureter is recognized by the mechanical dilatation above it. Deformity caused by tumor of the kidney may be demonstrated in about two-thirds of the cases. There is not as yet a widespread adoption of the pyelograph, largely because of a lack of technical facility. There is never permanent injury resulting from its use.

Dr. John T. Geraghty, Baltimore: We have used this method of examination for about a year and a half, and have found it of the greatest value in a certain class of cases. It gives a most graphic and striking illustration of the stomach, dilatation of the calyx, twists of the ureter, etc. So far as the kidney and pelvis itself are concerned, we have not been able to get as much information from it as Dr. Braasch has. With the use of the ureteral catheter, with the employment of the pyelograph to estimate the renal function, and with the chemical and microscopic characters of the urine, we can place kidney surgery on just as accurate a plane as any other branch of medicine or surgery.

Diagnosis of Prostatic Obstruction

Dr. Bransford Lewis, St. Louis: I consider the following features as essential in a diagnosis of such conditions, not only for the analytical study of the case, but as a working basis for treatment: 1. Hypertrophy or not? 2. If so, is it causing obstruction? 3. The amount of obstruction so produced. 4. The form and nature of the condition producing the obstruction. 5. The physical and functionating condition of the allied organs, particularly kidneys and cardiac system.

All of these points should be considered and determined accurately before attempting to decide as to the treatment or operation, except for such measures as emergency treatment may call for to relieve acute retention or sepsis, etc.

Cancer of the Prostate

Dr. Robert C. Bryan, Richmond, Va.: Primary cancer of the prostate may follow one of two general types, namely, the scirrhous and the glandular. Cancer is not infrequently associated with beginning hypertrophy, may originate in a normal and atrophic gland, or in an organ which has been the seat of a chronic prostatitis. One lobe or the entire gland may be involved. The infiltration may form foci so small as to be detected only by the microscope. Carcinoma of the prostate does not result as a degeneration of a previously benign adenomatous process. In every case of senile prostatic hypertrophy the fact of the possible existence of carcinoma must be borne in mind. The prostate itself causes no symptoms in the early stages of carcinoma; the subjective symptoms are given out by the bladder and pelvic organs. The invasion of the disease is so gradual, and the symptoms modified so progressively, that there is an unconscious adjustment of the patient to the condition. The treatment is divided into preventive and curative. Medical treatment is not to be entertained. There seems to be little virtue in the Roentgen ray, Finsen light or radium therapy. Bilateral castration is the operation of choice. In twenty-two cases of twenty-six operated on, the patients regained the bladder functions. The suprapubic operation is to be condemned as the prostatic urethra comes away and gives an unusually good opportunity for the escape of carcinomatous juices. In the second stage of the disease the operator must base his judgment for surgical attack on the degree and type of pathologic invasion.

The Influence of Stricture of the Urethra on the Development of Hypertrophic Changes in the Prostate

Dr. Hugh Cabot, Boston: Stricture of the urethra is markedly antagonistic to the development of hypertrophy of the prostate, owing to the long standing chronic prostatitis which it causes; therefore, no case of stricture of the urethra in later life, in the absence of enlargment of the prostate may be assumed. The recognition of this fact is important in the management of retention of urine in later life; it has not been sufficiently understood. The management of retention of urine due to stricture, and of that due to hypertrophy of the prostate is radically different and each condition has markedly a different prognosis.

DISCUSSION ON PAPERS OF DRS. LEWIS, BRYAN AND CABOT

Dr. E. G. Mark, Kansas City, Mo.: We can still further add to the comprehensive diagnosis of hypertrophy of the prostate by means of bimanual palpation. Where we have obstruction, be it from hypertrophy or contraction at the neck of the bladder, we should get away from the idea that the residual urine is increased. In contraction of the vesical neck, we are dealing with a neck below the age of those patients in whom we deal with hypertrophies. We have a compensatory hypertrophy of the musculature of the bladder, and therefore, a lessened residuum.

Dr. Henry J. Scherck, St. Louis: It is important to know when to operate in a case of hypertrophy of the prostate. I have seen a number of cases in which a very large prostate which could be palpated through the rectum produced very slight symptoms of obstruction. It is not always a large prostate that causes obstructive symptoms. Not long since I unfortunately removed a man's prostate, thinking the obstruction was due to enlargement of that organ, but the obstructive symptoms did not disappear. Subsequently it was found that this man had arteriosclerosis of the cord, as determined by a neurologist, which produced the bladder symptoms.

Dr. William N. Wishard, Indianapolis: The cystoscope may become a clumsy instrument in the diagnosis of prostatic hypertrophy. The prostate changes and increases in size; the urethra is usually elongated; it also has changed its angle, and in the introduction of the cystoscope, whose shaft is straight, the end of the shaft where the window of the cystoscope rests must be passed far beyond the vesical orifice and above the obstruction, or it is hard to get any view at all. The canal which, before the introduction of the instrument, was curved, is now straight and on account of the displacement of the vesical orifice there is produced a certain amount of bulging which is misleading.

Dr. W. F. Braasch, Rochester, Minn.: I would call attention to the value of urethroscopic examination in the diagnosis of hypertrophy of the prostate. I am in the habit of using a flexible instrument. It is also of value in the diagnosis of carcinoma involving the prostatic urethra. Carcinoma of the prostate in the majority of cases can be diagnosed by rectal palpation.

Dr. William Britt Burns, Memphis: Dr. Cabot has called attention to the lack of enlargement of the prostate in the presence of stricture of the urethra. That is a point that has escaped my attention, and I would like to know how that can be verified. A short time ago I had a patient with a very tight stricture of the urethra. I was not able to introduce the smallest filiform bougie. I resorted to suprapubic cystotomy, and in going through the neck of the bladder and opening the urethra in that direction, I was struck with the size of the prostate and debated for a short time as to the advisability of removing the prostate, but on account of the condition of the patient I did not do so. In that case there was a large and strong annular stricture at the neck of the bladder.

Dr. John T. Geraghty: I find that carcinoma of the prostate does not arise from a degeneration of the hypertrophied tissue, but it occurs in the portion of the prostate that is left behind. The posterior commissure never undergoes hypertrophy, and you will find there a plateau of tissue when cancer comes, and when associated with hypertrophy you will find cancer on the posterior surface. That is a point of practical importance. When you are doing perineal prostatectomy and have to cut through a dense layer of tissue before you come to the typical hypertrophied lobules, you may be sure you are dealing with cancer because it is the only condition which will give that picture, and it will help us in making a diagnosis if we have not done so before operation.

Dr. William Billington, Birmingham, Eng: With regard to the operative treatment of hypertrophy of the prostate, in England the suprapubic method is practiced more extensively than the perineal. Very large, soft, adenomatous prostates can easily be enucleated through a suprapubic incision, and the patients do well. The cases of small carcinomatous prostate, and those with contraction at the neck of the bladder, present grave difficulties if we attempt to enucleate them by the suprapubic route.

Operative Treatment of Gonorrheal Epididymitis

Dr. Francis Hagner, Washington, D. C.: I do not operate in every case of gonorrheal epididymitis, as the milder forms often recover promptly under appropriate expectant treatment. Until operative procedures were resorted to in acute gonorrheal epididymitis very little seemed to have been known of the gross pathologic appearance of this condition. In some cases on exposure of the epididymis multiple abscesses can be distinctly made out before puncture; in others abscesses cannot be made out until punctures are made. Eighty per cent. of my cases have had pus present in the epididymis, varying from a few drops to 1 and 12 drams, and yet the text-books on surgery state that gonorrheal epididymitis very rarely goes on to suppuration.

DISCUSSION

Dr. J. W. Handley, Nashville: I have had occasion several times to make incisions in the tunica vaginalis in cases of gonorrheal epididymitis, and have given my patients relief. The ideas Dr. Hagner has advanced in favor of operation are logical and worthy of serious consideration.

Dr. Hugh Cabot, Boston: We have operated in about thirty cases by Dr. Hagner's method, with gratifying results. I desire to lay stress on the results to the gonorrheal process by drainage of the epididymis, because it has seemed clear that in a certain proportion of cases—say 25 per cent.—drainage of the epididymis very definitely shortens the attack.

Dr. Joseph Rilus Eastman, Indianapolis: I would like to know whether Dr. Hagner has found the colon bacillus in any of his cases of gonorrheal epididymitis. I have found colon bacilli in abscesses which ensued on what seemed to be a gonococcal epididymitis.

Dr. Perry Bromberg, Nashville: Shortly after Dr. Hagner described his method in the *Annals of Surgery*, 1908, I tried it in one case, and the relief was so great that I have since adopted it as a routine method. I have done the operation more than twenty-five times, and my results have been excellent.

Dr. F. R. Hagner, Washington: I have not found the colon bacillus in a single case, but I do not deny that it may have been found by others.

Relation of Renal Activity to Surgical Operation

Dr. E. O. Smith, Cincinnati. The success or failure of a major operation depends largely on the activity of the kidneys, of course, barring faulty technic and bad surgical judgment of the operator. The functional activity of the kidneys may be influenced by the shock incident to a major operation, by the anesthetic, by trauma to one or the other kidney, by calculi, or by ureteral obstruction from any cause. There are three distinct periods of every surgical case that require special care and attention: the preoperative period, the operation and the postoperative period. It is best to make a further study of the functional activity of the kidneys before operation. This is based on the observations that normal kidneys remove from the circulation certain products that have been introduced within a certain time, and that marked deviations from this time represent abnormal kidneys. Operation should be done as rapidly as consistent with good work, for the longer the operation the greater the shock, and the greater the shock the greater the circulatory disturbance, and in consequence of which the blood-supply to the kidney is diminished, a very apparent cause of renal inactivity. Immediately following the anesthetic the patient should be given oxygen inhalation. In old people and bad risks this should be continued for several hours. Hiccough and persistent vomiting following operations are indicative of diminished renal activity and should be looked on as a warning rather than an independent complication calling for special treatment. When anuria does occur, the best treatment is fluid introduced into the veins, sweating and morphin. We have always used saline solutions, but Fischer's solution and alkaline solution are far more effectual.

DISCUSSION

Dr. William N. Wishard, Indianapolis: A study of the urine prior to operation, where it is found to be abnormal, is considerably influenced by the various preoperative or preparatory measures to which Dr. Smith has called attention. The specific gravity and the percentage of urea and the general condition of the urine are helpfully influenced by drainage. In a certain class of cases I drain the bladder, where it is possible for two or three days or longer prior to operation. We do not always estimate the importance of shortening the period of anesthesia in its relation to renal function.

Dr. Hugh Cabot, Boston: In our practice in the last two years in operations on the prostate, we have used spinal anesthesia as the anesthetic of election where the kidney function was below a fair standard, and many patients have recovered who we feel would not have recovered under general anesthesia. We have used gas and oxygen with excellent results, and in cases of damaged heart that anesthetic is to be preferred.

(To be continued)

MEDICAL SOCIETY OF PENNSYLVANIA

Sixty-First Annual Meeting, held at Harrisburg, Sept. 25-28, 1911

(Concluded from page 1381)

Traumatic Surgery of the Hand and Foot

Dr. James Jefferson, Johnstown: The most important feature in traumatic surgery of the hand is the care of severed tendons. In suturing tendons, the approximation has much to do with the efficiency of the repair. In subsequent fixation the part must be placed in such position as to avoid tension on the sutures. The best method of treating metacarpal fractures is by a long palmar splint with adhesive strips at the wrist for counter extension, and two strips of adhesive applied to the finger after the manner of Buck's extension. The severely crushed finger should be cleansed thoroughly, the soft structures replaced, and a hot bath of 1 to 4,000 corrosive sublimate applied. There is a great temptation to amputate, but it pays to take time and patience to avoid this. For sprains of the ankle my custom is to apply a plaster cast with the foot at right angles to the leg, and follow this later by strapping, after the method of Gibney.

DISCUSSION

Dr. J. Stacey John, Bloomsburg: Roentgen-ray examination in all cases of injuries of the hand and foot should be made to determine if any of the tendons have been severed. If so they should be sutured with catgut.

Dr. Americus R. Allen, Carlisle: The first thing that deserves consideration in these injuries is conservatism. When there is infection there should be free incision and immobilization. In dressing cases of fracture I use a small splint made of adhesive plaster with a small strip of pasteboard in between, and it answers very well.

Treatment of Backward Displacements of the Uterus

Dr. Xavier O. Werder, Pittsburgh: A simple uncomplicated uterine displacement rarely justifies operative treatment, because this malposition is usually a harmless condition. When symptoms accompany a uterine displacement we should first carefully search for some pelvic complications which are usually responsible for the disturbances, and in the absence of such affections, carefully examine into the general condition of the patient, and especially look for some manifestation of a disordered nervous system which is often at the foundation of this trouble. When in doubt, as of necessity we often are in this class of cases, a temporary correction of the displacement by means of a well-fitting pessary will often determine whether the cause of the ailment can justly be attributed to the uterus or to some derangement of the general health of the patient. Thus the pessary will often prove a valuable diagnostic as well as therapeutic agent.

DISCUSSION

Dr. Lowell M. Gates, Scranton: While it is true that not all cases of retrodisplacement of the uterus need immediate operation at first, sooner or later they will. In time they will produce symptoms of interference with the proper circulation of the blood in neighboring organs. We must always consider the type of the patient. A phlegmatic woman in the ordinary walks of life will go around for years with a retrodisplacement of the uterus without paying any attention to it, while the neurotic is made uncomfortable.

Secondary Repair of the Perineum by the Emmett Method

Dr. Henry D. Beyea, Philadelphia: There is much evidence of a tendency to discredit the value of the Emmett operation for secondary repair of the perineum. There is no operation in surgery that is more difficult of understanding or requires more study and surgical skill in its performance than this one. It is essential to practice every detail of the operation as taught by Emmett, even to the needle and suture material. Properly practiced, it is the only anatomically and surgically correct, and the most efficient method of restoration of the injured pelvic floor and the relaxed vaginal outlet.

DISCUSSION

Dr. Theodore B. Appel, Lancaster: In my work on the perineum the results of the Emmett operation have not been very satisfactory. My object in these cases is to get after the weakest point. I question whether you can do that by the Emmett operation

Dr. J. W. Luther, Palmerton: It is a mistake to try to apply one operation to all cases. If a distinct sulcus laceration can be demonstrated, the Emmett operation is the operation of choice. There are many cases of relaxation of the pelvic floor either with or without laceration. In these cases, when a distinct sulcus tear cannot be demonstrated, I think the Hegar operation superior to the Emmett.

Dr. W. Wayne Babcock, Philadelphia: There is no doubt that Emmett's operation has served a very useful purpose in the development of gynecologic surgery. It is a gynecologic and not a surgical procedure. The relaxed perineum is a condition very similar to hernia. By bringing its walls in apposition we can repair a perineum that is relaxed in just the same way that a hernia is repaired. There is no reason why we should not expose the various layers of tissue and bring them together.

Dr. J. M. Baldy, Philadelphia: My own impression has been that an operation is always surgical, providing the man knows how to do surgery. The trouble with those who criticize the Emmett operation is that they do not know how to do it. They show this by their criticism. The fault has been with the gentlemen who have tried to modify the Emmett operation. They have not done the Emmett operation. There is no such thing as a relapsed perineum without a laceration.

Dr. R. C. Norris, Philadelphia: The Hegar operation is suited only to women who will not again bear children, while the Emmett operation is adapted to child-bearing women. The difficulty lies in the lack of knowledge of the anatomy. We should go back to anatomy and study the anatomic basis of these operations; then we shall learn the true principle involved.

Essentials in Surgery

DR. J. M. WAINWRIGHT, Scranton: Surgeons could very well devote more time to the study of how to avoid operations which must end fatally, how to make all operations more safe, and how to diminish postoperative discomfort. In the ideal stage of surgery there would be no postoperative deaths, which now result either because the operation has been bungled or else because death was inevitable in spite of operation. In the latter case we have deluded ourselves into thinking that the operation would give the patient the last chance, whereas, in fact, all the operation did was to hasten the end. We need to make marked improvements in reference to the question of the safety of operating. We must learn among other things: how to avoid influencing the blood-pressure, and also how to use the anesthetic. Something must be done to make convalescence more pleasant. Patients do not get vitally interested in surgical feats performed while under the anesthetic, but they are vitally interested in the discomfort they suffer after the operation.

Estimation of Vital Resistance of Patient with Reference to Possibility of Recovery

DR. J. C. BLOODGOOD, Baltimore: For estimating the resistance of the individual we have very few scientific methods and instruments of precision as compared to those which the engineer possesses. In estimating the factors of vital resistance there are two large problems, one of diagnosis and one of treatment. The patient must be under observation from beginning to end and we must be changing our methods in order to meet the indications. As we have progressed in surgery and eliminated the grosser problems we come to-day to problems of the most minute detail. This relief with recovery depends on the estimation of the vital resistance of the patient before, during and after operation. When we come to estimate the actual factors in the resistance of the individual, science is small as compared to the art. We have to consider, first, the individual; second, the operation; and, third, the disease. Whenever we can estimate that the relief of the burden from the disease is greater than the burden we are going to place on the patient by an operation, the chances for a cure are very great. In regard to anesthesia, my personal experience in the last year has demonstrated that operations can be done under nitrous oxid on handicapped individuals, operations of a greater magnitude with the risk tremendously less than the same operation on the same individual under ether. During the operation the surgeon and the anesthetist work together, estimating the factors of shock, following pulse and respiration, and the surgeon must learn when to stop. There are many operations which do not need to be finished, and, I think, more careful observation will teach us when to stop in some of these operations of greater magnitude on handicapped individuals; we will perform the operation in two or three stages. The higher cortical centers are the least important things concerned as factors of safety.

DISCUSSION

DR. EDWARD MARTIN, Philadelphia: I take exception to the point that the higher cortical centers are the least important ones as factors in the safety of the patient. The ego, the individual aside from the physical, has an absolute dominating control over every function of the body, and by no means is the least important part of the attitude of absolute optimism on the part of the surgeon himself; his assistants and all those professional people who come in contact with that patient. Many a time, where the case was easily balanced, the victory has been won by that optimism and belief in recovery by which the patient has been properly influenced before and after the operation.

DR. HAROLD J. GIBBY, Pittston: One of the most important points, aside from the physical condition, is the temperament of the individual. The individual who resists the anesthetic, who is of a depressed nature, is sure he is going to die, is often a very poor subject. Another thing is the importance of diagnosis—to find out just how much has to be done and how much work can be done at the one sitting.

The Influence of Various Anesthetics in Determining Mortality

DR. GEORGE M. LAWS, Philadelphia: Surgical anesthesia is easy to obtain with chloroform; more difficult with ether, and most difficult with nitrous oxid, and statistics show that their relative safety is in reverse order. At the hospital of the University of Pennsylvania nitrous oxid followed by ether has been the routine anesthetic for years, and a continuance of our favorable result convinces us that ether pneumonia can be eliminated by proper application of this method. Whether or not a general anesthetic should be given when shock is present depends largely on an accurate estimate of the psychic element. The horror of ether is one of the greatest obstacles to modern surgery, as it leads the patient to defer operation. Therefore an anesthetic which is more pleasant to take has much to commend it. Ethyl chlorid has about the same range of utility as nitrous oxid, but its mortality rate, which is distinctly higher than that of chloroform, makes its use rarely justifiable. Nitrous oxid followed by ether given by the drop method overcomes practically all the objections to ether alone.

DISCUSSION

DR. WILLIAM L. ESTES, South Bethlehem: The principal thing in every anesthetic is the person who gives it. This implies that the man or woman of experience will, as a rule, adopt the anesthetic and regulate the quantity of anesthetic with reference to the patient. The next point in giving the anesthetic is the psychic state of the patient. Nephritis, especially the chronic kind, is not a contra-indication to ether.

DR. G. W. GUTHRIE, Wilkes-Barre: I believe in ether, and yet I am satisfied that the ultimate dangers of ether are sometimes overlooked. The drop method is the best method of giving ether.

How Long Should Patients Remain in Bed After Various Operations?

DR. ROBERT T. MILLER, JR., Pittsburgh: We cannot establish any law or precedent that may be safely followed in deciding the question as to how long patients should be kept in bed after operation. It is necessary to eliminate all purposeless effort and have the patient concentrate his whole strength on the problem of recuperation. This means absolute rest in bed. This may be required for two days, two weeks or two months. Exceptions to this are found in the case of elderly people, as regards pneumonia and uremia, both of which conditions may be warded off by postural change.

The Prevention and Treatment of Complications in Gastro-Intestinal Surgery

DR. DONALD GUTHRIE, Sayre: Success in this work depends more on the strict attention to details, which are often regarded by some surgeons as minor and unimportant, rather than on any unusual dexterity which may be displayed in the operating-room. The results of the surgeon who operates on the diagnosis of somebody else and who never sees his patients after operation can never be so good as those of the man who works up his cases for himself, who develops a technic of his own, and who carefully watches and treats such cases during their convalescence. The most common complications after operation on the gastro-intestinal tract in the order of their frequency are shock, acute dilatation of the stomach, pneumonia, adynamic ileus, embolism, fatty degeneration of the liver and peritonitis. In most of the well-managed operating-rooms the giving of an anesthetic is entrusted to a nurse specially trained and not to the youngest intern, who may be more interested in the steps of the operation than in the patient. The man who has a permanent force in his operating-room can do better work in all branches of surgery, especially gastro-intestinal surgery.

DISCUSSION

DR. W. L. RODMAN, Philadelphia: I am sure it would be much better for our patients if the amount of anesthetic given were reduced after the peritoneal cavity has been opened. I have been in favor of female anesthetists for the past ten years because they are more timid and see danger quicker than

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARKANSAS: Regular, Little Rock, November 14. Sec., Dr. F. T. Murphy, Brinkley; Homeopathic, Little Rock, November 14. Sec., Dr. P. C. Williams, Texarkana.

CONNECTICUT: Regular, City Hall, New Haven, November 14. Sec., Dr. Charles A. Tuttle, 196 York Street; Homeopathic, Grace Hospital, New Haven, November 14. Sec., Dr. Edwin C. M. Hall, New Haven; Eclectic, Hotel Garde, New Haven, November 14. Sec., Dr. Thomas S. Hodge, 19 Main Street, Torrington.

FLORIDA: *Regular, Jacksonville, November 7-8. Sec., Dr. J. D. Fernandez.*

LOUISIANA: Homeopathic, New Orleans, November 13. Sec., Dr. J. T. Crebbin, 1207 Maison Blanche Building.

MAINE: City Council Rooms, Portland, November 14-15. Sec., Dr. F. W. Searle, 776 Congress Street.

MASSACHUSETTS: State House, Boston, November 14-16. Sec., Dr. Edwin B. Harvey.

NEVADA: *Carson City, November 6. Sec., Dr. S. L. Lee.*

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Massachusetts September Report

Dr. Edwin B. Harvey, secretary of the Massachusetts Board Registration in Medicine, reports the oral, practical and itten examination held at the State House, Boston, Septem- 12-14, 1911. The number of subjects examined in was total number of questions asked, 70; percentage required pass, 75. The total number of candidates examined was of whom, 40 passed, including 3 osteopaths, and 21 failed. ding 4 osteopaths and 3 non-graduates.

PASSED

llege	Year *Grad.*	Per *Cent.*
University	(1905)	76.2
cky University	(1904)	75
sity of Maryland	*(1911)*	75
ore Medical College	(1910)	75
of Physicians and Surgeons, Baltimore (1909) 75; (1911) 77.8.		
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l University Medical School (1909) 81.5; (1911) 75, 82.2, 84.5, 87.4.		
University	*(1910)*	80.5
th Medical School	(1910)	75.3
a University, College of *Phys. and Surgs.*	*(1911)*	77.9
University Medical College	*(1909)*	87.1
ty and Bellevue Hospital Medical College	(1911)	79.2
Medical College	*(1910)*	75
y of Pennsylvania	*(1910) 75, 80; (1911)*	75.5
Medical College of Pennsylvania	(1911)	76.7
y of the South	(1908)	75
y of Vermont	*(1904) 77; (1910)*	81.7
versity, Quebec	(1904)	75
of Rome, Italy	(1893)	75
of Bonn, Germany	(1898)	87.6
FAILED		
Baltimore	(1910)	66.5
	(1905)	63.4
Boston (1908) 68.5; (1909) 71.7.		
dical School	(1911)	71.6
ersity	(1911)	63.3
rsity, Quebec	(1911)	65.4, 66.7
Vermont	(1892)	61.9
versity, Toronto	(1876)	40.2

Mississippi October Report

McLean, secretary of the Mississippi State Board ports the written examination held at Jackson, *1911.* The number of subjects examined in umber of questions asked, 64; percentage required *The total* number of candidates examined was 27 passed, including 12 non-graduates and 1 63 failed, including 26 non-graduates and 1 e following colleges were represented:

PASSED	Year Grad.	Total No. Examined.
bama	(1911)	1
Medicine	(1911)	2
Physicians *and Surgeons*	*(1906)*	*1*
hic Medical College	(1900)	1
sville	(1911)	3
ity	(1911)	2
ollege	(1911)	1
ville	(1910) (1911)	2
ollege	(1911)	1
FAILED		
National Medical University, Chicago	(1905)	1
University of Louisville	(1911)	2
Louisville National Medical College	(1910)	1
Tulane University of Louisiana	(1907)	1
Mississippi Medical College	(1907) (2, 1908) (1909) (1910) *(9, 1911)*	*14.*
Memphis Hospital Medical College	*(1911)*	7
University of Nashville	(1906) (1911)	2
University of West Tennessee	(1911)	1
Meharry Med. *College*	*(1905) (2, 1907) (1908) (2, 1911)*	6
Gate City Medical College	(1906)	1

Book Notices

A TEXT-BOOK OF MEDICINE. By G. Dieulafoy, Professor of Clinical Medicine at the Faculté Authorized English *Translation from the* "Manuel de pathologie interne" by V. E. Collins, M.D., M.R.C.S., L.R.C.P., and J. A. Liebmann, Ph.D., M.A., LL.D. *In two volumes.* Volumes I and II. Cloth. *Price, $12. Pp.* 2081, with 105 illustrations. *New York:* D. Appleton & Co., 1911.

The English translation of this popular French treatise will be welcomed by English-speaking physicians. The fact that fifteen editions of the book have appeared in the original language is sufficient evidence that it is fulfilling the purpose of a work on practice by a single author. Dieulafoy has adopted a simple classification of diseases of the different systems and writes from his personal experience rather than in a didactic text-book manner, frequently giving hypothetical or actual cases to illustrate a disease or a method of handling and treatment. This is a satisfactory and comforting method to the physician who turns to a text-book for information on the management of his cases. The author gives no prescriptions but suggests drugs and measures, outlining as far as possible a complete scheme of treatment and management in the various affections. The work has numerous charts, cuts and colored plates illustrating the pathology. The English edition is in two volumes and mechanically is well rendered.

OPHTHALMIC MYOLOGY. A Systematic Treatise on the Ocular Muscles. By G. C. Savage, M.D., Professor of Ophthalmology *(Defects of the Eye)* in the Medical Department of Vanderbilt University. Second Edition. Price, $4. Pp. 685, with 84 illustrations. G. C. Savage, 137 Eighth Avenue, Nashville, Tenn., 1911.

This well-known work on the extrinsic and intrinsic muscles of the eye having reached a second edition, has been considerably enlarged by the addition of ninety-one pages to the first chapter and the insertion of twenty-three new cuts. Moreover, the practical chapters, 2 and 12, have had such corrections and additions made to them as seemed to be necessary to elucidate the theorems and hypotheses which the author set forth in his first book. These comprise the fundamental principles of ocular rotations and include chapters on orthophoria, heterophoria, esophoria, exophoria and cyclophoria. The attention of the reader is called to the chapters on the paralyses and pareses of the ocular muscles, and to the following chapter which in an original manner discusses the muscles of the iris and of the ciliary body, particularly in their relations to accommodation, convergence and other normal and abnormal movements of one or both eye-balls.

A MEDICAL HISTORY OF THE STATE OF INDIANA. By G. W. H. Kemper, M.D. Cloth. Price, $2.50. *Pp. 393, with illustrations.* Published by the Author, Muncie, Ind.

This volume contains the articles which the author contributed to the *Journal of the Indiana State Medical Association* during 1909-1911 while he was chairman of the committee on necrology. There is an interesting introduction by Dr. Brayton of Indianapolis. The chapters on the *early* medical history of Vincennes and Indiana are full of valuable historical material, as are the succeeding chapters dealing with the early history of various localities. There are chapters on the state society, on epidemics and health laws, *war history, and* an alphabetical list of deceased physicians, together with biographical notices in a number of *instances. Pictures of a* number of the more prominent physicians are inserted. As a source for reliable historical material, *Dr. Kemper's book* will acquire an increasing value as years go on. The example he has set for state medical history should be *followed in other* states.

a man. I would like to know, however, what would be the legal responsibility of the surgeon whose patient dies on the table while the anesthetic is being given by a trained nurse. I do not think the diploma of a trained nurse allows her to give poisons. The thing that has brought me best results in my work is the administration of morphin and atropin one hour before operation, and the next best thing is postoperative lavage.

Dr. Charles H. Frazier, Philadelphia: I happened to consult a lawyer with regard to the legal status of an official anesthetist, prior to the employment of a female nurse anesthetist at the University Hospital and was assured by him that the hospital authorities were entirely justified in employing her and would not be subject to damage, providing they realized that in the employment of this special anesthetist they were doing it for the best interest of their patient. We should try to have a woman give ether and ether alone. It seems scarcely fair to a professional anesthetizer to have patients brought in to her and have her instructed to give the anesthetic before she has had an opportunity to go over them. She should have a list of patients to be operated on the day before operation so that she may see them, inquire as to the nature of the operation to be performed, look into the history of the case and make some examination, perhaps of the heart or lungs, before the patient is brought to the operating-room for operation.

Dr. John B. Roberts, Philadelphia: I believe that women do many things better than men, but I believe that all anesthetists should be those qualified to practice medicine; qualified to determine whether the patient has a good or bad heart, whether good or bad kidneys.

Dr. Charles E. Thomson, Scranton: I do not believe that all our troubles have ended with anesthetics when we have introduced nurses to administer them, but I think that they are so far advanced, so much better than anything we have ever heretofore enjoyed, that we are making real progress in handing over our anesthetics to trained nurses. I mean nurses who have been trained to give anesthetics.

Dr. George W. Guthrie, Wilkes-Barre: As to giving poisons, the nurse is authorized to give hypodermics of atropin and strychnin in the absence of the doctor, whereas the anesthetic is never given unless the doctor is present.

Dr. C. J. Cummings, Williamsport: I would not have it go out that a woman can give an anesthetic better than a doctor. I do not believe that should be accepted.

Dr. G. E. Shoemaker, Philadelphia: This question is a practical one in our hospitals only and does not refer to the trained nurse in general practice giving anesthesia. We cannot get our interns to take enough interest in anesthesia to do it right. We must hire somebody who will stay in the hospital one or two years and give anesthetics alone.

Dr. J. C. Bloodgood, Baltimore: Anesthesia is the stepping-stone to surgery; every surgeon who operates should have had experience in anesthesia. There is no practical experience which teaches the individual the physiology and the problems of physiology which are of the utmost importance to the surgeon in the treatment of respiration better than anesthesia. I think that men who go into surgery should have their experience of anesthesia, and that the anesthesia in most of the clinics where it is possible should be given by the men who ultimately expect to go into surgery.

What Can be Done to Preserve the Strength of the Patient During His Stay in Bed?

Dr. John M. Baldy, Philadelphia: Surgical patients, as a rule, are not sick in the sense, for instance, of a typhoid patient. Therefore, there is little call for efforts for sustaining strength after operation. The effort to force the appetite by drugs only prolongs the loss for an indefinite period. The excretory organs should be got to working actively by means of purgatives and diuretics. With a few exceptions the diet should not be limited, except as to quantity. A patient kept in bed two to four weeks on three full meals a day inevitably suffers from one or two attacks of indigestion. If the surgeon will use good judgment in deciding that an operation is desirable, will prepare his patient well, do his operation properly and pick his nurse carefully, he need not bother much about the after-treatment.

Transfusion

Drs. George M. Dorrance and Nathaniel Ginsburg, Philadelphia: In concealed bleeding within the abdomen or pelvis we frequently wait for the resultant syncope to arrest the bleeding. This too often results in loss of life. Instead of waiting and trusting to uncertainty we advise and practice transfusion. In this way it is possible to render cases apparently inoperable, on account of shock, suitable for operation. Instances of this are met with in gastric or duodenal hemorrhage, in hemorrhage following operation or typhoid or extra-uterine pregnancy.

Commission on Prevention of Venereal Diseases

Dr. Edward Martin, Philadelphia, chairman of this commission, offered on behalf of the commission recommendations that a medical certificate of freedom from veneral or other contagious diseases should be required from the man who contemplates marriage, that one who conveys venereal disease should be punished by a jail sentence, and that provision should be made for foci of infection so that the public may be protected.

The recommendations were adopted by the society and the commission was continued for another year with the same personnel.

Commission on Fractures of the Femur

Dr. William L. Estes, South Bethlehem, chairman of this commission, offered on behalf of the commission recommendations that teachers of surgery should give far more attention to the investigation of fractures and to the teaching of this important branch to their students; that while recognizing the fact that roentgenograms may be most misleading, they will, when properly made, furnish an indication for the proper reduction and preservation of apposition of the parts and serve as a graphic record of the fracture itself; that, while treatment by means of traction enables the patient in most cases to resume his occupation without serious detriment, yet roentgenograms show that absolute apposition and restoration of the proper axis of the bone are seldom accomplished; that the open method of treatment introduces such a very marked element of danger that the commission cannot recommend it for general use or recognize it as a routine practice, but that in selected cases it may be employed by an experienced surgeon; that some form of traction, such as Buck's extension, seems to be the preferable method of treatment, though Bardenheuer's transverse traction and Hamilton's apposition splints will serve a useful purpose in the majority of cases; that the usual methods of measurement are very inaccurate, though good functional results are obtained when the shortening is not over an inch, providing there is no inversion or eversion of the foot; that the usual method of measuring should be checked by measuring from the tip of the ensiform cartilage to the internal malleolus or the patella or from the middle of the umbilicus to the internal malleolus; and that in making measurements the pelvis should not be tilted and that the anterior spine should be in the same horizontal plane.

Commission on Cancer

Dr. J. M. Wainwright, Scranton, chairman of this commission, reported on behalf of the commission that county societies have been urged to devote meetings to the study of cancer and that a number have done so; that six short articles adapted to the lay reader have been prepared, and that these will be sent to all the leading newspapers in the state for publication; that from a report of 382 cases of cancer it was shown that only 68 per cent. of superficial cancers and 48 per cent. of deep-seated cancers were operable when they came to the surgeon; that in 39 per cent. of the superficial and 46 per cent. of the deep-seated cancers there had been a precancerous condition or a chronic irritation; that both the patient and physician are to blame for the delay in treating cancer, but that it would seem that the medical profession should be the first to show improvement in this respect.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

WOMEN'S CLUBS FOR BETTER HEALTH

The Public Health Department of the General Federation of Women's Clubs has taken up the systematic study of community health, as one of the regular features of club work. A special circular on this subject has been sent out to all women's clubs by the chairmen of the Public Health Department. This circular contains a program for women's clubs to follow in studying public health questions. It also appears in a recent number of the *Federation Bulletin.*

The significance and value of this campaign on the part of the federation cannot easily be overestimated. Women, as wives and mothers, are forced to bear the heaviest personal burdens that result from sickness in the household. If the women of the country will unite in a vigorous and persistent demand for better public health, they can wield an enormous influence in securing better conditions and in reducing the unnecessary sacrifice of life, now going on.

The attention of physicians is called to this mportant work. It is pecially of interest to e members of state d county committees legislation and pub- instruction. Every possible assistance should be given to the women's clubs in this work. In many cities, physicians can be of great assistance by co-operating with the public health committee of the local club, helping to arrange public meetings, to furnish speakers and to enlist the support of their friends and patients. Copies of this circular and program, as well as information regarding the work among women's clubs can be secured by addressing Mrs. S. S. Crockett, Chairman; Public Health Department; General Federation of Women's Clubs, Nashville, Tenn.

AMERICAN MEDICAL ASSOCIATION PRIZE CARTOON SERIES
C. Batchelor

IT IS INFINITELY MORE HUMANE, THAT A FEW ANIMALS DIE IN SCIENTIFIC RESEARCH, WITH LITTLE OR NO PAIN, THAN THAT THOUSANDS OF LITTLE CHILDREN SHOULD LIE ON BEDS OF PAIN AND PERHAPS, AT LAST, DIE IN AGONY.

SELECTED TOPICS FOR MONTHLY HEALTH CAMPAIGNS AND CLUB PROGRAMS, 1911-1912

October. Community Health

1. What is meant by community health?
2. What should be done to further the health of a community—(a) In homes; (b) in schools; (c) in factories; in shops; in offices; (d) in streets and alleys; (e) in markets; (f) in the drainage system and disposal of other wastes; (g) in provision of clean air and water.
3. What organizations and other agencies are helping to better the health of our community?
4. What can our club do to further these activities?

November. Social Hygiene

1. What is social hygiene?
2. What parents can do.
3. How mothers can teach.
4. What should be taught in primary schools; what should be taught in secondary schools.
5. Local reports. Has your board of education, has your superintendent, has any individual teacher taken any steps in regard to this subject?
6. What the club can do.

December. Ventilation

1. Why we should ventilate.
2. How to secure ventilation—(a) in homes; (b) in public buildings and conveyances.
3. Reports on local conditions—(a) in homes; (b) in schools; (c) in stores; (d) in factories; (e) in churches; (f) in theaters; (g) in public conveyances.
4. What this club can do about it. (a) Each individual member set a good example by ventilating her own home; (b) arrange lectures before local clubs; (c) print ventilation epigrams on your stationery; (d) agitate against specific local air polluters; (e) in public buildings (and conveyances) already constructed demand the best ventilation possible under existing conditions; where new public buildings are being erected interest architects and builders in installing up-to-date methods.

January. Mouth Hygiene—Teeth Inspection

1. What is oral or mouth hygiene?
2. The relation of the teeth to health; on teeth examination of school children in this community.
3. Reports: On education of children or adults regarding the care of the teeth; are there facts available concerning the condition of the teeth of school children of this community? have the local dentists planned to help this movement?
4. Talk by a local dentist on "How to care for the teeth," with a child to illustrate.
5. Discussion — "What can we do about it?"
6. Committee appointments—plans for doing something.

February. Clean Food

1. Definition—clean vs. pure food.
2. Reading from Mrs. Richards in proceedings of Boston biennial.
3. Requirements for clean lists—sanitary score cards.
4. Local accounts of successful food inspection work.

March. School Hygiene—Medical Inspection—School Nurse

1. What is medical inspection?
2. Review of Gulick and Ayers' book.
3. Beginnings — volunteer work.
4. Follow-up work—the nurse; the teacher; the home.
5. Reports of local conditions—from doctors; from teachers; from nurses; from mothers.
6. Where medical inspection is in vogue in this state—results, if any.

April. Conservation of Vision

1. Prevention of infantile blindness—(a) The cause; (b) how it may be prevented; (1) legislation; press; (2) by education; exhibitions; lectures.
2. Lecture by non-commercial electric engineer on "Prevention of eye-strain by proper lighting—in shops; in offices; in homes; in schools."
3. Local oculist discusses "Prevention of eye-strain by suitable glasses."

Chairman closes the meeting by laying special stress on broad conservation viewpoint in this particular question. Distributes literature furnished by the American Association for the Conservation of Vision, and mentions the conservation of vision day which the association proposes to promulgate in 1913.

May. Infant Mortality

1. The relation of vital statistics to infant mortality.
2. What are the chief causes of infant mortality?
3. How to interest and educate mothers.
4. What every mother ought to know.
5. Reports of local milk-supply.
6. Reports on local institutions.

N. B.—Definitions, suggestions and reference lists prepared by the section chairmen of the health department will appear in each succeeding number of the *Federation Bulletin* (Cannon Place, Troy, N. Y.).

It is respectfully suggested to clubs that, aside from the use of topics as programs for actual meetings, they may also be used for planning meetings elsewere, particularly in trying to get other bodies to use topics, and also for individual study and planning by any interested club women, and also for general suggestion to even the reader who may have but incidental interest, but who may look over the outlines in the club organs.

COMMUNITY HEALTH

Wherever homes are grouped, there exists one supreme common interest—the promotion of the public health. On this depends the happiness and efficiency of the individual, the family and society.

The requisites for public or community health may be loosely enumerated as follows: Clean air, water, food, clean homes, schools, churches, theaters, factories, shops, offices, conveyances, streets and alleys and clean citizens. Cleanliness means absence of filth, whose presence implies disease germs. Transmissible diseases have their origin in filth and are conveyed to an unsuspecting public in buildings, streets and conveyances as well as by water, food and milk. Add to this the part played by flies, mosquitoes and other insects.

The public health movement is coincident with the growth of the science of bacteriology, which makes possible the prevention of most diseases which were wont to have been considered inevitable. This includes the potential elimination of yellow fever and malaria, small-pox, the plague, leprosy, hookworm, typhoid, tuberculosis and all diarrheal diseases; has made possible aseptic surgery and midwifery, and a negligible mortality from diphtheria. The universal acceptance and observance of hygienic principles by the people is the object of the movement.

"A knowledge of danger is the surest way of guarding against it," and this knowledge of the immense effect on the common welfare produced by the destruction of germs before they reach the human body places a vast responsibility on public officials and public-spirited citizens and gives a new meaning to the phrase, "Am I my brother's keeper?" The responsibility for the application of sanitary methods rests on all who constitute that intangible but powerful agency called public opinion, for it is a well-accepted principle that what the majority of people want that will they get.

The fact that certain of our friends are made uneasy by so much talk of disease prevention should not give practical workers for improved health conditions cause for worry—"for the knowledge that certain diseases exist, that they have well-known causes, that they are disseminated by well-understood agents, and that their spread can be prevented by well-tried methods should make for peace of mind, not for worry." And it should be remembered that germs (and the filth-borne diseases) are no respecters of psychologic antagonisms, attacking alike the believer and the disbeliever. And while mental therapeutics is a valuable factor in the treatment of diseases of the nervous system, yet "think health—talk health"—"forget disease" is inapplicable to the germ and its extermination.

The eye of the sanitary world to-day is centered on Dr. W. C. Gorgas, whose work has made possible the construction of the Panama Canal, preceded as he was by Reed, Carroll, Lazear and others who proved the mosquito a carrier of yellow fever and malaria.

Of the agencies, official and voluntary, which are concerned in preventing disease and making life more productive, the first in present interest is the hoped-for National Department of Health which the General Federation endorsed at the Cincinnati biennial.

The object of a national health department is to investigate the causes of disease in general, to collect and disseminate such information, and to coordinate the various governmental agencies affecting public health into one department with an expert at its head.

Such a department would spread throughout the country such authoritative information on the conservation of human beings as the Department of Agriculture now does in the case of cattle. The government might make maps, as it now does to show the "beet belt," for example, showing in Dr. Wiley's words, "where the cancer belt is, where the greatest tuberculosis area is, where the typhoid area lies, what [illegible] nen and women of the finest physiques. S[illegible] be of illimitable value to the nation in a [illegible] t the reduction of disease, and would save [illegible] e nation now lost by unnecessary sickness and premature death." Of course, a national Department of Health could have no more to do with the individual practice of medicine than the Department of Agriculture has to do with the individual management of a farm. The Constitution of the United States makes this impossible in any of the states.

Those who oppose federal aid in health matters (the most important that could concern a nation), claiming that it will further the interests of any school or cult, fail to catch the real object of the department, which is to "prevent" disease, and concerns itself not at all with any method of treatment.

Perfected federal, state, county and municipal aid and control of health problems is a consummation not only to be wished but worked for, and the obligation of women's clubs, as homemakers and mothers in such efforts, would seem to be clearly defined, for women's clubs have emerged from the self-culture period and reached the stage where they work not only for the welfare of their own homes and children, but "for women other than themselves, for children other than their own."

The only possible discussion of the question revolves around the point of ways and means.

In connection with monthly health programs, submitted for your consideration, as applicable to actual club or committee meetings, your chairman offers the following general suggestions:

CLUBS OR COMMITTEES

1. Should seek to inform themselves about what needs doing, the best way of doing it and the proper organization or department to do it.
2. Should become a center of inspiration in the community and create a "health consciousness."
3. Should seek to spread a knowledge of the best methods among those doing health work.
4. Should plan systematically to get other organizations interested to the end that each take up a particular community need.

Thus the club becomes a coordinating power and helps to form an orderly social program, each in its own community. By cooperating with corresponding national organizers this desirable goal may be reached for the whole United States.

HEALTH DEPARTMENT PROGRAM

The public health department of the General Federation of Women's Clubs asks that all federated clubs unite in a common month-by-month campaign of study and work, and invites all other public-spirited women's organizations to join in the same cooperative movement. The chairman, Mrs. S. S. Crocket, from the headquarters at Nashville, Tenn., announces nine topics for study and "talk," and nine "campaigns of education," to be handled as follows: October, Community Health: "Know Your City" campaign; November, Social Hygiene: Sex Education in Home and School; December, Tuberculosis: Ventilation and Fresh Air; January, Mouth Hygiene: Tooth Inspection Day; February, Clean Food: How and Where to Get It; March, School Hygiene: Medical Inspection; April, Conservation of Vision: Prevention of Blindness; May, Infant Mortality: "Don't Kill Your Baby"; June, Food Sanitation: Needless Summer Dangers.

The entire health machinery of the American Federation of Clubs and thousands of local clubs will be centered on this program of study, "talk" and real work, with new plans and original ideas to be announced from month to month.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

[Note.—The pamphlets containing the outline of the postgraduate study course for county societies for the coming year are ready for distribution. Secretaries of county societies can secure supplies by writing to the Secretary, Council on Health and Public Instruction, American Medical Association, 535 Dearborn Ave., Chicago.]

General Subject for the Month: Rheumatism and Gout

Third Month—First Weekly Meeting

ANATOMY

ARTICULAR STRUCTURES: Articular lamella of bone. Articular cartilages. Interarticular fibro-cartilages. Synovial membrane, structure, attachments, secretion, synovial ligaments.

PERI-ARTICULAR STRUCTURES: Ligaments, structure, attachments. Muscles and tendons, tendon sheaths. Nerves and blood-vessels.

ENDOCARDIUM: Origin, structure, thickness, reduplications, aortic valves, mitral valves.

ETIOLOGY OF ACUTE RHEUMATISM[1]

PREDISPOSING CAUSES: Heredity. Age. Sex. Occupation. Climate, season and locality. Diet. Epidemics. Chronic endocarditis and chorea.

FACTS INDICATING THAT RHEUMATIC FEVER IS AN ACUTE INFECTIOUS DISEASE: Incidence, clinical features, bacteriology. "*Micrococcus rheumaticus*."[2] staining and cultural characteristics. Other organisms suggested.

OLD THEORIES OF RHEUMATISM: Metabolic (Prout, Latham), and nervous theory (Mitchell).

REFERENCE BOOKS FOR THE THIRD MONTH

The following text-books on practice: Osler, Tyson, Hare, Anders, Edwards, Strümpell. The following on gout: Duckworth, Ewart, Luff.

Osler's Modern Medicine.
Allbutt's System of Medicine.
Symes: Rheumatic Diseases.

Heredity.—"Heredity," says Ribot, "is that biological law by which all beings tend to repeat themselves in their descendants; it is for the species what personal identity is for the individual. By it a groundwork remains unchanged amid incessant variations; by it Nature ever copies and imitates herself."

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1. Cole: New York Med. Jour., 1906, lxxxiii, 334.
2. Lewis and Longcope: Amer. Jour. Med. Sci., 1904, p. 603. Beattie: Brit. Med. Jour., 1905, No. 11, p. 1510. Poynton and Shaw: Trans. Lond. Path. Soc., lv, p. 126. Poynton and Paine: Lancet, Dec. 16, 1905.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARKANSAS: Regular, Little Rock, November 14. Sec., Dr. F. T. Murphy, Brinkley; Homeopathic, Little Rock, November 14. Sec., Dr. P. C. Williams, Texarkana.

CONNECTICUT: Regular, City Hall, New Haven, November 14. Sec., Dr. Charles A. Tuttle, 196 York Street; Homeopathic, Grace Hospital, New Haven, November 14. Sec., Dr. Edwin C. M. Hall, New Haven; Eclectic, Hotel Garde, New Haven, November 14. Sec., Dr. Thomas S. Hodge, 19 Main Street, Torrington.

FLORIDA: Regular, Jacksonville, November 7-8. Sec., Dr. J. D. Fernandez.

LOUISIANA: Homeopathic, New Orleans, November 13. Sec., Dr. J. T. Crebbin, 1207 Maison Blanche Building.

MAINE: City Council Rooms, Portland, November 14-15. Sec., Dr. F. W. Searle, 776 Congress Street.

MASSACHUSETTS: State House, Boston, November 14-16. Sec., Dr. Edwin B. Harvey.

NEVADA: Carson City, November 6. Sec., Dr. S. L Lee.

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Baltimore Medical College	(1910)	75
College of Physicians and Surgeons, Baltimore (1909) 75; (1911) 75, 77.8.		
Tufts College Medical School (1909) 80; (1910) 75; (1911) 75, 75, 75.8, 76.6, 77.9, 83.		
Harvard University Medical School (1909) 81.5; (1911) 75, 82.2, 84.2, 84.5, 87.4.		
Boston University	(1910)	80.5
Dartmouth Medical School	(1910)	75.3
Columbia University, College of Phys. and Surgs.	(1911)	77.9
Cornell University Medical College	(1909)	87.1
University and Bellevue Hospital Medical College	(1911)	79.2
Albany Medical College	(1910)	75
University of Pennsylvania (1910) 75, 80;	(1911)	75.5
Woman's Medical College of Pennsylvania	(1911)	76.7
University of the South	(1908)	75
University of Vermont (1904) 77;	(1910)	81.7
Laval University, Quebec	(1904)	75
University of Rome, Italy	(1893)	75
University of Bonn, Germany	(1898)	87.6
FAILED		
College of Physicians and Surgeons, Baltimore	(1910)	66.5
Baltimore Medical College	(1905)	63.4
College of Physicians and Surgeons, Boston (1908) 68.5; (1909) 67; (1910) 58; (1911) 68.7, 70.8, 71.7.		
Harvard Medical School	(1911)	71.6
Boston University	(1911)	63.3
	(1911)	65.4, 66.7
	(1892)	61.9
	(1876)	40.2

Mississippi October Report

Dr. S. H. McLean, secretary of the Mississippi State Board of Health, reports the written examination held at Jackson, October 9-10, 1911. The number of subjects examined in was 8; total number of questions asked, 64; percentage required to pass, 75. The total number of candidates examined was 90, of whom 27 passed, including 12 non-graduates and 1 osteopath, and 63 failed, including 26 non-graduates and 1 osteopath. The following colleges were represented:

College	Year Grad.	Total No. Examined.
PASSED		
University of Alabama	(1911)	1
Atlanta School of Medicine	(1911)	2
Atlanta College of Physicians and Surgeons	(1906)	1
Chicago Homeopathic Medical College	(1900)	1
	(1911)	3
	(1911)	2
	(1911)	1
(1910)	(1911)	2
	(1911)	1
FAILED		
National Medical University, Chicago	(1905)	1
University of Louisville	(1911)	2
Louisville National Medical College	(1910)	1
Tulane University of Louisiana	(1907)	1
Mississippi Medical College (1907) (2, 1908) (1909) (1910) (9, 1911) 14.		
Memphis Hospital Medical College	(1911)	7
University of Nashville (1906)	(1911)	2
University of West Tennessee	(1911)	1
Meharry Med. College (1905) (2, 1907) (1908)	(2, 1911)	6
Gate City Medical College	(1906)	1

Book Notices

A TEXT-BOOK OF MEDICINE. By G. Dieulafoy, Professor of Clinical Medicine at the Faculté de médecine de Paris. Authorized English Translation from the Fifteenth Edition of "Manuel de pathologie interne" by V. E. Collins, M.D., M.R.C.S., L.R.C.P., and J. A. Liebmann, Ph.D., M.A., LL.D In two volumes. Volumes I and II. Cloth. Price, $12. Pp. 2081, with 105 illustrations. New York: D. Appleton & Co, 1911.

The English translation of this popular French treatise will be welcomed by English-speaking physicians. The fact that fifteen editions of the book have appeared in the original language is sufficient evidence that it is fulfilling the purpose of a work on practice by a single author. Dieulafoy has adopted a simple classification of diseases of the different systems and writes from his personal experience rather than in a didactic text-book manner, frequently giving hypothetical or actual cases to illustrate a disease or a method of handling and treatment. This is a satisfactory and comforting method to the physician who turns to a text-book for information on the management of his cases. The author gives no prescriptions but suggests drugs and measures, outlining as far as possible a complete scheme of treatment and management in the various affections. The work has numerous charts, cuts and colored plates illustrating the pathology. The English edition is in two volumes and mechanically is well rendered.

OPHTHALMIC MYOLOGY. A Systematic Treatise on the Ocular Muscles. By G. C. Savage, M.D., Professor of Ophthalmology (Defects of the Eye) in the Medical Department of Vanderbilt University. Second Edition. Price, $4. Pp. 685, with 84 illustrations. G. C. Savage, 137 Eighth Avenue, Nashville, Tenn., 1911.

This well-known work on the extrinsic and intrinsic muscles of the eye having reached a second edition, has been considerably enlarged by the addition of ninety-one pages to the first chapter and the insertion of twenty-three new cuts. Moreover, the practical chapters, 2 and 12, have had such corrections and additions made to them as seemed to be necessary to elucidate the theorems and hypotheses which the author set forth in his first book. These comprise the fundamental principles of ocular rotations and include chapters on orthophoria, heterophoria, esophoria, exophoria and cyclophoria. The attention of the reader is called to the chapters on the paralyses and pareses of the ocular muscles, and to the following chapter which in an original manner discusses the muscles of the iris and of the ciliary body, particularly in their relations to accommodation, convergence and other normal and abnormal movements of one or both eye-balls.

A MEDICAL HISTORY OF THE STATE OF INDIANA. By G. W. H. Kemper, M.D. Cloth. Price, $2.50. Pp. 393, with illustrations. Published by the Author, Muncie, Ind.

This volume contains the articles which the author contributed to the *Journal of the Indiana State Medical Association* during 1909-1911 while he was chairman of the committee on necrology. There is an interesting introduction by Dr. Brayton of Indianapolis. The chapters on the early medical history of Vincennes and Indiana are full of valuable historical material, as are the succeeding chapters dealing with the early history of various localities. There are chapters on the state society, on epidemics and health laws, war history, and an alphabetical list of deceased physicians, together with biographical notices in a number of instances. Pictures of a number of the more prominent physicians are inserted. As a source for reliable historical material, Dr. Kemper's book will acquire an increasing value as years go on. The example he has set for state medical history should be followed in other states.

Medicolegal

Medical Practice Act Not Invalid in Not Providing for Licensing Masseurs—Admissible Evidence of Violation of Law—Who Amenable to Law

(Germany vs. State (Tex.), 137 S. W. R. 130)

The Court of Criminal Appeals of Texas again affirms a judgment against a masseur for practicing medicine and treating disease without registering a certificate as required by law. The court says that it was contended that the law regulating the practice of medicine was unconstitutional, and that there was error in a refusal to permit the defendant (Germany) to show that "there was no board of medical examiners nor any authority in the state of Texas to whom he could apply for a license or permit to practice massage treatment, and that, as the law made no provision for the practice of masseur treatment, it was discriminating in its character." But the court knows of no higher duty a government has than to protect the life and health of its citizens and, if experience has shown that no man should be permitted to treat disease who has not a knowledge of the subjects named in the medical practice act, the legislature not only had the power, but it was its duty, to pass a law protecting the citizens of the state.

The law does not attempt to say how any one shall treat disease. This is left to the sound judgment of the practitioner. All it says is that he must have a knowledge of certain given subjects before he shall undertake to practice. If the defendant desires to treat those who are sick, let him demonstrate he has a knowledge of the subjects named in the law, and he can treat disease in the manner that is by him deemed best. Physicians all state that in some character of diseases they use "massage," and that it is beneficial, while in others it is harmful.

The court did not err in not permitting the defendant to prove there was no board where he could obtain license to practice massage. There is a board where he can obtain such a license; but he must show, in order to get that license, that he has a knowledge of the human anatomy, is able to diagnose disease, and has a knowledge of the studies named. This is a wise provision, as this court sees it. In protecting the liberty of the citizen, and in protecting him in his property rights, our laws provide that no man shall practice law, or appear in the courts in behalf of another for a remuneration, unless he has gone before a board and demonstrated he has a knowledge of certain principles underlying the law, naming certain books he must read and master to some extent at least. When we are thus careful in dealing with the liberty and property of our citizens, how much more care should we take when we come to deal with matters relating to his very life and the preservation of his health.

Nor was it error to permit the state to prove that the defendant had treated others than a certain Miss Luther, the offense with which he was charged being that he was offering to treat disease for pay without having registered his certificate. An advertisement issued by him and the fact that he treated others for disease contemporaneously with Miss Luther were all admissible, as was the fact that he told Mr. Luther he could cure his daughter of appendicitis.

It was not a question in the case whether the treatment given by the defendant was harmful or beneficial, and the court did not err in not permitting that issue to get in the case.

It was also immaterial whether Miss Luther had been treated by others before she was treated by the defendant; but the fact that the court permitted her father to state that he had his daughter treated by other physicians before she was treated by the defendant could not be injurious to the defendant.

The fact that the defendant represented to witnesses that he could cure certain diseases, and had cured them, was also admissible. Any statement of a defendant relative to the offense for which he is being tried can be proven if the state desires to elicit it.

As the defendant was claiming that he was exempt under the provisions of the medical practice act, it was proper to admit the testimony of physicians as to being familiar with the sphere of labor of a masseur, such as is exempted under the operation of the medical practice act, and that the sphere is to work under the directions of a physician; that one who is not well up on anatomy, physical diagnosis, etc., is not capable of directing the use of massage.

Under the repeated decisions of this court, one who shall treat or offer to treat mental or physical disease by any system or method, and charge therefor, and who has not obtained authority to do so from the medical board, is amenable to the law.

Evidence of Negligence in Failure to Attend Case as Promised

(Adams vs. Henry (Mich.), 131 N. W. R. 62)

The Supreme Court of Michigan reverses a judgment directed for the defendant in this action for malpractice. The plaintiff claimed that premature labor had been brought on by a jar while alighting from a street car, and that the defendant, who had called on her several times in the afternoon promised to return promptly at 11 o'clock, maybe a little earlier, but did not return until 2 o'clock a. m., while the child was born at five minutes after 12 a. m. The plaintiff also offered to prove that her husband had shortly after 11 o'clock called the defendant by telephone, also a little later, and again after the child was born, and that the defendant had each time promised to attend at once, but did not until the time stated. The court holds that if the plaintiff had been permitted to produce, and had been able to produce, testimony tending to establish the statements contained in the offer of proof, it could not be said as a matter of law that the defendant was not negligent. If the defendant was present and responded personally to each call that was said to have been made on him between 11 and 12:30 o'clock, and on each occasion agreed to at once attend the plaintiff and failed to keep his promise, the court thinks he should be held liable, if his failure to attend resulted in injury to the plaintiff. The plaintiff's declaration contained the averment that a laceration of the cervix and rupture of the perineum resulted from the defendant's failure to attend as it was alleged that he had agreed to do, and the court is disposed to the view that the plaintiff should have been permitted to offer such testimony as she possessed pertinent to the issue.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Orthopedic Surgery, Philadelphia

August, IX, No. 1, pp. 1-152

1 *Standardization in Orthopedic Instruction and Practice. A. H. Freiberg, Cincinnati.
2 *Currents and Countercurrents in Surgery. E. H. Bradford, Boston.
3 *Results from Use of Tuberculin in Joint Tuberculosis. G. B. Packard, Denver.
4 *Tuberculin in Orthopedic Diagnosis. W. G. Stern, Cleveland.
5 *Joint Tuberculosis in Children. L. W. Ely, Denver.
6 *The Anterior Heel. A. G. Cook, Hartford, Conn.
7 *Tendon Transplantation and Silk Ligaments: A Few Practical Points in Technic. E. W. Ryerson, Chicago.
8 *Use of Intra-Articular Silk Ligaments for Fixation of Loose Joints in Residual Paralysis of Anterior Poliomyelitis. B. Bartow and W. W. Plummer, Buffalo.
9 *Treatment of Paralytic Outward Rotation of Foot. G. G. Davis, Philadelphia.
10 Congenital Elevation of Scapula. H. W. Kennard, Baltimore.
11 *Physiologic Conception of Arthritis and Some of Its Practical Uses. H. W. Marshall, Boston.

1, 2, 3, 5, 7, 8 and 9. Abstracted in The Journal, June 17, 1911, pp. 1845 and 1846.

4. **Tuberculin in Orthopedic Diagnosis.**—In 471 cases Stern has used the following "combined" test: When a case presents clinical signs pointing to the possibility of a tuberculous infection, a v. Pirquet and a Calmette test are made at the same sitting. The patient is seen at the end of twenty-

four and again after forty-eight hours. If both tests are positive the case is held to be one having an active tuberculosis; if both tests are negative the case is declared free from tuberculosis. Where one test is positive, and the other negative (it usually falls out v. Pirquet positive, Calmette negative), the subcutaneous or intracutaneous prick reaction is resorted to. The smallest possible doses are given subcutaneously, since there is already one negative test and it is desired only to bring out evidences of active tuberculosis. If the third test proves positive, active tuberculosis is diagnosed, and vice versa. Wherever possible the findings have been checked up by laboratory examinations of scrapings, pus, cerebrospinal fluid, etc., Roentgen-ray examinations, autopsy (one case), the clinical course of the disease, and by the variation of the opsonic index after massage and passive motion. In all, Stern knows of but six cases out of the 471 tested in which a mistaken diagnosis was made and in all of these the error was a positive one, i. e., tuberculosis was indicated where it did not exist; but in no case was a tuberculous infection overlooked. In two out of the six a Wassermann reaction done at other hands proved positive and the patients improved under antisyphilitic treatment. The other four cases were all mild cases of arthritis, clinically suspicious, in whom the Roentgen ray gave the clew to the proper diagnosis; none ran the course of a tuberculosis. None of the cases so severe as to give a chance for laboratory investigation was mistaken. Two patients who died from tuberculous meningitis within fourteen days after Stern first saw them, one a tuberculous coxitis, the other a tuberculous shoulder and hip case, gave positive reactions.

6. **Anterior Heel.**—The anterior heel advocated by Cook is an inverted isosceles triangle prism of leather, the base being about 2 inches and the altitude varying from 2/16 to 5/16 of an inch. This prism is placed obliquely across the bottom of the shoe, the vertex of the triangle being just behind the anterior arch or ridge formed by the heads of the metatarsal bones. The base of the triangle is applied to the inner sole, the outer sole following the contour of the two equal sides. The shoe is provided with a heavy steel shank which is supported behind by a low, broad heel, and in front by the anterior heel. The anterior heel, when studied in connection with the steel shank and the posterior heel, is an important element in the balance of the shoe, and by the use of the anterior heel, the following facts are demonstrated: (1) The center of gravity of the body is moved backward and the pressure thus removed from the heads of the metatarsal bones. (2) By supporting the steel shank with the anterior heel, the posterior arch of the foot is supported, and the pressure distributed by increasing the bearing surface. (3) In the act of walking, when the weight passes from the heel and instep to the ball of the foot, the anterior heel acts as a fulcrum and thus relieves pressure on the heads of the metatarsal bones. (4) While standing on the balls of the feet, the anterior heel supports the heads of the metatarsal bones, equalizes pressure, and prevents the falling of the anterior arch. The anterior heel affords instantaneous and efficient relief from all troubles of the anterior part of the foot, whether considered singly or collectively, such as depression of the anterior arch, callosities, corns, bunions, twisted or distorted toes, Morton's toe, anterior metatarsalgia, etc., etc. The common cause of all these troubles is undue pressure, and the anterior heel, by removing this pressure, removes the cause, and places the injured parts in a position in which recovery is possible. A shoe balanced in this manner forms a reliable base for a simple "orange-peel" instep support. The shoe and instep support prevent no normal motion of the foot and impede no normal action of the muscles; a weak foot is not bound down and splinted, but is carefully balanced and supported and kept in a normal position. Walking is easy and natural, and when the weakened muscles have regained their power and the overstretched ligaments have contracted to their proper length, the arch of the foot rises above its support and the support becomes superfluous. Cook claims that shoes and instep supports made in this manner and worn indefinitely will in no way injure normal feet.

11. **Physiologic Conception of Arthritis.**—Marshall calls attention to the fact that knowledge of physiologic conditions which control the health of joints offers a rational means of simplifying and harmonizing the legion of confusing observations and theories. Nervous, infectious, metabolic, mechanical and anatomic theories all may be included in a physiologic conception which recognizes the possibility of influencing joints through their blood and nerve-supply, and by mechanical motions, and other physical agencies. Physiologic conceptions of joint disease include bacterial theories of arthritis, metabolic theories, also the action of drugs and food products in the single group of blood irritants. Excessive mechanical irritations, deformities resulting from continued mechanical strains, contractions and postures acquired during acute stages of arthritic diseases due to faulty attitudes while in bed, may be harmonized on a physiologic basis and interpreted as departures from normal physiologic functions through faulty mechanical and anatomic conditions. Nervous theories also are not overlooked, and the importance of nervous control of joints is emphasized. By supplementing this knowledge of physiologic conditions which control the health of joints with the physiologic conceptions of interactions between organs, and the variable resistances of tissues, an adequate hypothesis may be formulated which is simple enough to be remembered, and which satisfactorily explains all confusing observations and ideas that now exist.

If there have been recurring attacks of joint symptoms in a person who has always been in delicate health it is unreasonable to believe that arthritis will cease abruptly and permanently, and treatment in such cases first of all must be directed toward building up very slowly the general vigor and resistance. Cases with abrupt onset of arthritis in full health, with joint symptoms occurring for the first time, have different prognosis and treatment; and while it is impossible to predict the length and severity of symptoms in such instances, obviously remedial measures should not be prescribed, although they often are, with the same frequency and degree of vigor as used with delicate persons. When a period of failing health has preceded the onset of arthritic disease, as very frequently happens, personal habits and modes of living should receive particular attention; and generally the causes may be discovered in common, uninteresting defects in personal hygiene which, when corrected, are followed by subsidence of joint pains and stiffness and by return to usual health. It is Marshall's custom to inquire closely into the patient's daily routine, the time of arising, kind of breakfast eaten, the nature of the occupation, hours of work, and whether there is an excessive amount done; the midday meal and regularity in taking it; also the nature of the evening meal, and how evenings are generally spent; what the usual hours for sleep are, and whether it is restful or disturbed; the individual's usual recreations; the amount of out-door exercise; the appetite, peculiarities in diet, and regularity of intestinal functions; the existence of mental worries and habits of taking stimulants. The patients' opinions of their own condition and what caused the failing health are asked; and from these simple questions it is possible to gain very accurate ideas of the daily life and often to discover remediable defects which alone are responsible for poor health and arthritis. Cases of intractable arthritis must have their beginnings in these same simple, commonplace defects of personal habits that escape recognition owing to their simplicity and ordinary character; and if this is true it indicates that early treatment and prevention of joint disease is the most important and rational course to advocate.

Northwest Medicine, Seattle, Wash.

October, III, No. 10, pp. 271-302

12 Some Problems for Washington Profession. W. Johnston, Spokane, Wash.
13 Future Hygiene. J. N. Hurty, Indianapolis, Ind.
14 Baldness, Its Cure and Cause. F. S. Palmer, Seattle, Wash.
15 Antityphoid Inoculation. J. E. Lane, North Yakima, Wash.
16 Fallacies of Climate in Treatment of Tuberculosis. R. W. Matson, Portland, Ore.

Colorado Medicine, Denver

October, VIII, No. 11, pp. 337-467

17 Conservation of Human Energy. J. E. Goldthwait, Boston.
18 Influence of Mental Attitude of Patient in Surgical Operations. E. J. A. Rogers, Denver.

Texas State Journal of Medicine, Fort Worth

October, VIII, No. 6, pp. 157-182

19 *Twenty-Seven Cases of Latero-Lateral Anastomosis of Ileum and Sigmoid Flexure for Chronic Mucous Colitis. G. H. Noble, Atlanta, Ga.
20 Salvarsan in Mental and Nervous Diseases. W. L. Allison, Fort Worth.
21 *Experience with Noguchi Modification of Wassermann Reaction. J. H. Black, Dallas, Texas.
22 *Pellagra, with Its Peculiarities on the Plains. E. H. Inmon, Takoka, Texas.

19. **Latero-Lateral Anastomosis of Ileum and Sigmoid Flexure.**—It is claimed by Noble that this operation will cure mucous colitis in properly selected cases. Patients with atonic dilatation of stomach and absence of free hydrochloric acid are not good subjects for it and if it be done in this class of patients, persistent treatment subsequently for diseases of the stomach should be enforced. All contributing causes to constipation that can be relieved by surgical measure, should have attention at the time the anastomosis is made. A large percentage (75 per cent.) of Noble's twenty-seven patients received prompt relief from the operation, others required from one to two years to effect a cure, while a small per cent. are but little improved. He cautions that it is not to be depended on as a cure to the exclusion of diet, exercise, and in some instances, laxatives. Partial diversion of the intestinal current into the rectum does not cause diarrhea but on the other hand absorption of fluids by the rectum causes "drying out" of feces, and more or less constipation in about 25 per cent. The patients are cured of mucous colitis though not entirely relieved of constipation. It does not interfere with nutrition. The absorption of toxins is diminished, but absorption of water is ample. The operation is based on the principle that mucous colitis is largely caused by constipation and putrefactive decomposition. From this point of view, the direct object of the anastomosis is to partially drain the most intensely affected section of the ileum, preventing its full discharge into the cecum; for the amount of decomposition, irritation and absorption of toxins is more or less in proportion to the quantity of proteins and degree of stasis in the colon. In the technic of the operation, the suture method is preferred and the anastomosis made as low down on the ileum and sigmoid as the two portions of the intestinal canal can be approximated without tension. Loops are drawn out of the abdomen far enough to make the work easy and to avoid angling of the bowel. The danger of infection is minimized by the use of the rubber dam. This is a piece of rubber sheeting about 14 inches square, in which two slits are cut about 1½ inches long and 6 inches apart, through which the knuckles of the intestines are drawn. The rubber is grasped between the thumbs and fingers of both hands and slightly stretched as each loop of intestine is placed in the clamp. None of the intestine except the immediate portion involved in suturing is exposed to infection from opening the lumen of the canal. After the raw edges are sutured, the exposed parts are thoroughly cleansed and clamps and rubber dam removed. The operation is completed aseptically.

21. **Noguchi Modification of Wassermann Reaction.**—A typical lesion in which spirochetes had previously been found, gave Black a positive reaction after seven weeks. The eruption soon followed. Four weeks after the appearance of a chancre on the lip, a positive reaction was found. These are the earliest positive reactions he has obtained. Two suspicious lesions, each of six weeks' duration, gave negative reactions and later healed without treatment and no secondaries occurred. A suspicious ulcer of the tonsil gave a negative reaction and healed promptly under local treatment. Of seven patients showing typical syphilitic eruptions, all were positive. Eleven cases in the tertiary stage, showing active symptoms, all gave positive reactions. Of nine patients who gave positive histories, but who have had no symptoms for periods varying from a few months to several years, seven gave negative reactions. Three cases with suspicious but not positive histories and showing no definite symptoms, gave negative reactions. Of sixteen cases giving a negative history and yet showing suspicious lesions, fifteen were negative and one positive. This positive case later responded to salvarsan. One of the cases giving a negative reaction is seen now to be clinically syphilis and is responding to the exhibition of mercury. This is the only failure of the reaction in this series. Black has made only six examinations of patients who had previously given positive reactions and had been given an intramuscular injection of salvarsan. These second examinations were made from six to eight weeks after the injection and were all negative. One of these cases after salvarsan, two months after his previous reaction, remains negative. One case of congenital syphilis was positive and one patient showing some obscure mental disturbance also responded. The latter gave a history of fifteen years' standing.

22. **Pellagra.**—The peculiarities of this disease on the plains seems to be that the disease is much more severe than in the lower altitudes of Texas. The cases which have been observed by Inmon presented all the usual symptoms, except one case, in which the patient's mind was not affected to within ten hours of death. As a rule, pellagra on the plains runs a short course and very promptly terminates in death.

Bulletin of Johns Hopkins Hospital, Baltimore

October, XXII, No. 248, pp. 351-382

23 Problem of Typhoid in Baltimore. W. W. Ford and E. M. Watson, Baltimore.
24 Recent Epidemic of Diphtheria in Johns Hopkins Hospital and Medical School: General Procedures Adopted. W. W. Ford, Baltimore.
25 *Infection of Urinary Tract by Bacillus Lactis Aerogenes, with Consideration of the Mode of Entrance of Bacteria into Bladder. J. A. Luetscher, Baltimore.
26 Combined Adenocarcinoma and Mixed-Cell Sarcoma of Ovary. E. K. Cullen, Baltimore.
27 *Blood-Picture in Hodgkin's Disease. C. H. Bunting, Madison, Wis.
28 *Transplantation of Free Flaps of Fascia. J. S. Davis, Baltimore.

25. **Infection of Urinary Tract by Bacillus Lactis Aerogenes.**—Luetscher summarizes his conclusions as follows: The *B. lactis aerogenes* is a rare cause of cystitis. The great majority of infections are due indirectly to the introduction of instruments. Infections of the bladder, in cases in which no instruments have been introduced, are very frequent in women and rare in men. In infections of the bladder in women, without a history of the introduction of instruments, the route of infection is usually an ascending one and due to the direct invasion of the bacteria from the urethra. Such direct invasion of the bladder also occurs in the male and probably much more frequently than is usually supposed. The introduction of a catheter or instruments into the bladder is a very serious procedure, since it may produce a pyuria if the local conditions are favorable, or a bacteriuria which later may be converted into a pyuria when the local conditions become favorable.

27. **Blood-Picture in Hodgkin's Disease.**—One of the most marked characteristics of the blood-smears of Hodgkin's disease, according to Bunting, is the presence of a large number of blood-platelets, inclusive of unusually large platelet forms, practically megalokaryocyte pseudopodia. This was observed in all the eleven cases forming the basis of this report, both in early and in late cases, and over considerable periods of time in cases in which blood-counts have been made at intervals. From this constant finding and from pathologic findings in autopsy material from cases of Hodgkin's disease, it was suggested in a previous report that the toxin of the disease acted as strongly on the platelet-forming elements as on the lymphocytes. An eventual necrosis of megalokaryocytes in the bone-marrow was found. One case of the present series, showed a low platelet-count in the circulation. After having shown a high platelet content of his blood in counts at intervals from Nov. 9, 1909, to September, 1910, the boy returned to the hospital in April, 1911, with serious hemorrhages from the mucous membranes, with a secondary anemia, a leukopenia, 3,500 to 4,000, and fewer platelets than leukocytes, as shown by repeated examinations made during April and May. However, while exceptional or terminal cases may show this platelet exhaustion, the excessive number would appear to be constant in the course of the disease. Coincident with this platelet study, careful study of the leukocyte picture in the disease has been made and has led to the conclusion that in the combined platelet and leukocyte picture one has features that are very characteristic and, in fact, almost pathognomonic of Hodgkin's disease.

While from his experience Bunting believes that the diagnosis may be made from examination of the blood-smear, he would not recommend the method to the exclusion of the histologic examination of an excised gland. The blood-smears have been stained with Wright's stain for the purposes of the counts, although Ehrlich's triple stain has been used for the determination of certain features. Five hundred cells have been the routine and the smallest number counted, but in some cases this has been exceeded. The leukocytes have been grouped into seven classes, except in a few of the early counts wherein but six were made. These groups are: (1) Polymorphonuclear neutrophil (N.); (2) eosinophil (E.); (3) basophil (mastzell) (B.); (4) small lymphocyte (S. L.); (5) large lymphocyte (L. L.); (6) large mononuclear (L. M.); (7) transitional (Tr.). The most striking feature in the counts, perhaps, is the constant high percentage of the so-called transitional cells. This high percentage occurs not only when the total leukocyte count is approximately normal, but also is maintained even when there is a sharp leukocytosis. With a normal total count of leukocytes the percentage of transitionals approximates 10; with a very marked leukocytosis one may have a reduction (6.4 per cent.); while in a leukopenia the percentage rises to 17.8 in a total of 4,800. The series indicates, then, that throughout the disease there is a relatively large number of these cells in the circulation. When one recalls that similar cells are found in smears from normal lymph-glands and also that in Hodgkin's disease there is a marked proliferation of the endothelial elements of the glands, it is difficult not to draw the conclusion that such a proliferation results in this excessive transitional content of the blood. The lymphocyte-count has varied much in these cases, but there is a definite tendency for a percentage decrease from a normal or slightly increased count in early and active stages to a very low count in later stages. With this decrease in lymphocyte percentage, there occurs a corresponding *increase in the polymorphonuclear count, from a relatively normal count during the course of the disease, to a relatively high count* (76.2, 79.4, 81.8, 84 per cent.) in the terminal stages or when the periglandular infiltration and induration are marked. Eosinophils are found in the glands in large numbers. The highest count found was 8.6 per cent. There is no striking change in the basophil-count, or in that of the large mononuclears.

28. **Transplantation of Free Flaps of Fascia.**—In one group of experiments made by Davis, free fascia flaps were successfully transplanted into the subcutaneous tissue, into fat, on muscle, periosteum, bone, cartilage, tendons and ligaments. Microscopic examination of the specimens showed that the fascia retained its own structure after transplantation and was apparently healthy and well nourished. This was true even after the fascia had been kept in cold storage for thirty-five days and then transplanted into another animal. A second group shows that muscle and tendon defects may be bridged by three flaps of fascia. Muscle defects may be bridged by means of fascia flaps and thus a certain amount of the muscle function saved. The fascia united firmly with the muscle ends and formed a strong symmetrical band between them. A third group shows that free flaps of fascia may be transplanted successfully around arteries, veins and nerves, without in any way interfering with the lumen of the vessels, or compressing the nerves. In a fourth group free flaps of fascia were successfully transplanted into joints and also to take the place of patellæ which had been removed. A fifth group shows that flaps of fascia inserted in skull defects between the dura and bone edges will heal and give a strong membrane which will resist considerable pressure from within and without. When the dura is removed in addition to the bone the fascia flap tucked under the bone edges will unite with the dura and also become tightly adherent to the bone edges. There was in each instance a single fine adhesion of the cortex to the center of the fascia flap. This group also shows that free flaps of fascia may be successfully used to cover prepared defects in the trachea, without subsequent infection and that the mucous membrane grows across the fascia covering the defect. A sixth group shows that free flaps of fascia may be sutured into peritoneal and muscle fascia defects in the abdominal wall and that it will incorporate itself with the surrounding peritoneum and muscle edges. A small omental adhesion was present on examination of the specimen in each instance, but in no case was there adhesion of the gut or any other abdominal organ to the fascia. When a hernia was produced by the removal of a portion of the abdominal wall, except the skin, it was readily cured several weeks later by the transplantation of fascia flaps. In group six, *free fascia flaps were successfully transplanted onto the* stomach, the intestine and the bladder. The fascia seemed to incorporate itself with the peritoneum. In group seven free flaps of fascia were successfully transplanted on the liver, kidney and spleen.

In several experiments fascia was drawn taut and sutured around firm rubber tubes 0.8 to 1 cm. in diameter and then inserted in the subcutaneous tissue. These specimens were removed after forty-nine and fifty-four days. The structure of the fascia could easly be seen. Microscopic examination showed normal staining fascia with no signs of degeneration. This is interesting as it shows that fascia will receive sufficient nourishment if only one surface is exposed to living tissue. Once or twice the fascia flap was accidentally allowed to partially dry out before it was transplanted, but, in spite of this, it was moistened with salt solution and transplanted. The results were excellent and the fascia was nourished and grew in its new position.

Lancet-Clinic, Cincinnati

October 14, CVI, No. 16, pp. 381-406

29 Radio-Activity of Mineral Waters from Mt. Clemens and Vicinity. G. A. Persson, Mt. Clemens, Mich.
30 Surgery of Lungs. B. M. Ricketts, Cincinnati.
31 External Malleolar Reflex; Chaddock's Sign. R. Ingram, Cincinnati.

New York Medical Journal

October 14, XCIV, No. 16, pp. 765-812

32 Treatment of Portal of Entry of Systemic Diseases. G. Wilson, Baltimore.
33 Newer Teaching of Gastro-Intestinal Diseases. M. I. Knapp, New York.
34 Recurrence of Scarlet Fever. J. P. C. Griffith, Philadelphia.
35 Some More Important Legal Aspects of Practice of Medicine. H. M. Friedman, New York.
36 Use of Nuclein Solution in Surgery. H. J. Achard and H. H. Redfield, Chicago.
37 Complications Following Submucous Operation on Nasal Septum. I. H. Alexander, New York.
38 Few Suggestive Experiments for Cutaneous Reaction for Diagnosis of Syphilis. M. J. Schoenberg and E. Burchill, New York.
39 **Rôle of Extensor Toe Reflexes in Neurologic Diagnosis.* T. B. Throckmorton, Cherokee, Iowa.

39. See THE JOURNAL, May 6, 1911, p. 1311.

Journal of Missouri State Medical Association, St. Louis

October, VIII, No. 4, pp. 135-180

40 Our Rural Schools. E. H. Miller, Liberty, Mo.
41 Explanation of External Malleolar Sign Made with View to Incite Study to Determine Its Place in Semelology. C. G. Chaddock, St. Louis.
42 Blindness Following Administration of Organic Arsenic. A. W. McAlester, Kansas City, Mo.
43 Cardiospasm with Sacculation of Esophagus: Its Diagnosis and Treatment. J. S. Myer, St. Louis, Mo.
44 Some Examples of Extragenital Syphilis. J. W. Marchildon, St. Louis.
45 [illegible] Goiter. J. N. Scott, Kansas City, Mo.
46 [illegible] Administration with Special Reference [illegible] Content. W. E. Leighton, St. Louis.
47 Venous Anesthesia. G. A. Lau, St. Joseph, Mo.
48 Menace to Eyesight from Trachoma. J. Green, St. Louis.
49 *Buttermilk as Infant Food. F. C. Neff, Kansas City, Mo.
50 Dietetics of Infancy. J. M. Brady, St. Louis.
51 *Treatment of Pneumonia in Adults. H. A. Killian, Portageville, Mo.

49. **Buttermilk as Infant Food.**—Neff does not believe that buttermilk should be considered as a substitute for sweet milk in the feeding of healthy infants. His experiences prove that the cases for the feeding of buttermilk as for any other form of milk should be selected, and that the daily weight and other evidences of gaining should be closely watched. Buttermilk is more especially suited to sick infants, those with marasmus, chronic enterocolitis, exudative diathesis and those that are commonly termed difficult feeding cases. It may be given for a period of several months without causing unfavorable symptoms and top milk may be gradually added if desired. It is especially of value in the summer months, at which season it will be better tolerated and will produce

better stools than the same case would have done on a sweet milk mixture. Chilling and proper handling of a clean fresh milk is essential to the successful administration and good results in buttermilk feeding.

51. **Treatment of Pneumonia.**—Killian's treatment is entirely symptomatic. He says that to maintain life the careful management of the stomach by suitable diet to prevent distention and the consequent cardiac embarrassment is of the highest importance. To support the heart; the best drugs for this purpose are strychnin, caffein, alcohol, digitalis, camphor and adrenalin. Treat the symptoms as they arise; not the pneumonia, but the patient with pneumonia.

St. Paul Medical Journal

October, XIII, No. 10, pp. 421-482

52 Laboratory Methods in Diagnosis of Syphilis. H. L. Ulrich, Minneapolis.
53 Rambles Through Hospitals Abroad. F. Leavitt, St. Paul.
54 Diseases of Gall-Bladder. R. C. Dugan, Eyota, Minn.

Western Medical Review, Omaha

October, XVI, No. 10, pp. 495-546

55 Preventive Medicine. W. H. Wilson, Lincoln, Neb.
56 Therapeutic Points in Reference to Neuroses. G. A. Young, Omaha, Neb.
57 Vacuum Treatment of Ear, Nose and Tonsils. H. B. Lemere, Omaha, Neb.
58 Venereal Diseases, Their Causes, Prevention and Cure. W. O. Henry, Omaha, Neb.
59 Scientific Problems of Nature's Secrets. P. E. Koerber, Yutan, Neb.

Journal of Biological Chemistry, Baltimore

October, X, No. 3, pp. 168-294

60 Nitrogen Fixation by Yeasts and Other Fungi. C. B. Lipman, San Francisco.
61 Phytase in Lower Fungi. A. W. Dox and R. Golden.
62 Determination of Calcium in Presence of Magnesium and Phosphates; Determination of Calcium in Urine. F. H. McCrudden.
63 Study of Optical Forms of Lactic Acid Produced by Pure Cultures of Bacillus Bulgaricus. J. N. Currie, Madison, Wis.
64 *Rôle of Carbohydrates in Creatin-Creatinin Metabolism. L. B. Mendel and W. C. Rose, New Haven, Conn.
65 *Inanition and Creatin Content of Muscle. L. B. Mendel and W. C. Rose.
66 *Excretion of Creatin in Infancy and Childhood. W. C. Rose, New Haven.
67 *Prevention and Inhibition of Pancreatic Diabetes. F. P. Underhill and M. S. Fine, New Haven, Conn.
68 An Improved Apparatus for Determination of Amino Groups. D. Klein, Madison, Wis.
69 Shaffer's Method for Determination of β-Oxybutyric Acid. R. A. Cooke and E. E. Gorslin, New York.

64. **Creatin and Creatinin Metabolism.**—Two fundamental facts are emphasized by the experiments of Mendel and Rose: (1) An increase in the elimination of total creatinin (i. e., creatin plus creatinin) is always accompanied by an increase in the output of total nitrogen; and (2) carbohydrates, in contrast to the other foodstuffs, are capable of preventing the excretion of creatin and are therefore indispensable for normal creatin-creatinin metabolism. They found that the excretion of creatin induced by starvation, is inhibited in rabbits by feeding a diet of carbohydrates absolutely free from proteins and fats. When the carbohydrates are given in liberal amounts, creatin entirely disappears from the urine. The creatin elimination is not reduced by feeding a diet of fat alone, or by a diet of fat and protein. Experimental interference with carbohydrate metabolism leads to the elimination of creatin. After phlorhizin diabetes which depletes the store of carbohydrates and during phosphorus poisoning, which disturbs the glycogenic functions, the output of creatin in dogs is decidedly increased. An increase in the output of creatin plus creatinin (total creatinin), is always accompanied by an increase in total nitrogen elimination. This parallelism of total creatinin and total nitrogen outputs in inanition and with nitrogen-free diets is ascribed to a common source, namely, true tissue or endogenous metabolism. The metabolism of exogenous or reserve proteins is not accompanied by the production of creatin or creatinin. The intimate relation of creatin excretion (or the failure of conversion into creatinin) to carbohydrate metabolism, is discussed in detail.

65. **Inanition and Creatin Content of Muscle.**—The authors are convinced that there occurs an increase in the percentage of creatin in the muscles of rabbits and fowl during inanition. Two possible explanations for the larger amount of creatin suggest themselves. The increase may be due (1) to a removal of the non-creatin portion of the muscle, leaving the creatin intact; or (2) to an increased formation of creatin. The first explanation seems improbable, for if the creatin is loosely combined with muscle as Urano ('07) believes, there is no reason for assuming that the non-creatin material could be withdrawn and leave the creatin intact, any more than for assuming that the reverse could occur. An increased formation seems to be the most plausible explanation.

66. **Excretion of Creatin in Infancy and Childhood.**—In view of the observations that creatin is a normal constituent of the urine of sucklings Rose attempted to determine the age at which this product disappeared. Thirty-nine specimens of urine from children of different ages were analyzed. With the exception of two cases, creatin was present in all specimens from children under 15 years of age. A boy of 10 and a girl of 13 failed to have creatin in their urines. No progressive decrease in the percentage of the total creatinin in the form of creatin coincident with increase in age is apparent; neither is the percentage of creatin constant for the same individual. For instance, one specimen obtained from a child of 5 years contained 24.2 per cent. of the total creatinin in the form of creatin, while a second sample from the same child a few days later, contained 79.2 per cent. of the total creatinin as creatin. It was impossible to obtain information as to the amount and kind of food eaten by the children. Most of the specimens were obtained from the city orphans home or from private families, and the subjects of the experiments were probably ingesting more or less meat. It is possible, therefore, that the oxidation or conversion of creatin into creatinin may be difficult for young individuals to accomplish and in this case the creatin of the urine may in part, represent ingested creatin; or the glycogenic functions may be imperfectly developed and the store of carbohydrates be insufficient to exert its regulatory influence over metabolism during childhood.

67. **Hydrazin and Pancreatic Diabetes.**—The authors found that removal of the pancreas from normal dogs may be followed by the appearance of sugar in the urine within a period of two hours. Glycosuria fails to manifest itself after pancreas extirpation in dogs that have received previous injections of hydrazin. In general this effect is produced by a single subcutaneous injection of 50 mg. per kilo hydrazin sulphate. The influence of the hydrazin administration lasts between two and four days. A single injection of 25 mg. per kilo hydrazin sulphate does not prevent sugar elimination in the urine, under the experimental conditions, after pancreas removal. The blood-sugar content of animals treated with hydrazin and then depancreatized remains below the normal, or at least hyperglycemia is not in evidence. Hydrazin introduced into dogs during pancreatic diabetes is capable of completely inhibiting the excretion of sugar by the kidney. After hydrazin administration the presence of adrenalin in the adrenals may still be demonstrated. In this respect hydrazin differs from phosphorus. The authors assume that there is an interrelation between the pancreas, the adrenals and the liver by the equilibrium of which the sugar content of the blood is kept practically constant. To accomplish this the pancreas is assumed to pour an internal secretion into the blood which tends to increase carbohydrate catabolism, hence to diminish the blood-sugar. This influence they have called the pancreas secretion factor. On the other hand, the adrenal is assumed to give an internal secretion to the blood which has the opposite effect, namely, it has a tendency to check carbohydrate catabolism; hence leads to an accumulation of sugar in the blood. This action they have designated the adrenal secretion factor. According to this idea of what occurs to keep blood-sugar content normal, the quantity of glycogen which will be taken from the liver's store to accomplish this purpose is entirely dependent on which of the two factors is predominant at any given moment. Applying these ideas to pancreas extirpation or adrenal removal, the effects which should theoretically follow according to their scheme agree perfectly with recorded observations which for the most part have universal acceptance.

Laryngoscope, St. Louis

September, XXI, No. 9, pp. 891-970

70 History of Bronchoscopy and Esophagoscopy. G. Killian, Berlin.
71 Bronchoscopy and Esophagoscopy: Their Indications and Contra-Indications. D. O. Kahler, Vienna.
72 Esophagoscopy and Gastroscopy. C. Jackson, Pittsburgh.
73 Consideration of Mechanism of Pressure in Production of Vertigo. C. J. Blake, Boston.
74 Rachiocentesis in Treatment of Aural Vertigo. J. J. Putnam, Boston.
75 Method of Obliterating Naso-Frontal Duct and Catheterizing Frontal Sinus. H. P. Mosher, Boston.
76 Modern Operative Procedures in Ear Affections. H. B. Graham, San Francisco.
77 Relation of Internal Carotids and Optic Commissure to Hypophysis. O. H. Maclay, Chicago.
78 Remarkable Case of Intranasal Destruction from Disease Without Any Deformity. O. J. Stern, Chicago.

American Journal of Surgery, New York

October, XXV, No. 10, pp. 309-340

79 Advantages of Nitrous Oxid-Oxygen Narcosis. R. C. Coburn, New York.
80 Surgical Formulary, Equipment, Method of Preparation and Sterilization Employed at Mount Sinai Hospital, New York. A. V. Moschcowitz, New York.
81 Surgical Essentials. F. E. Neef, New York.
82 Tr[illegible] ion After Fractures About Ankle.
83 Lo[illegible] rtzler, Kansas City, Mo.
84 Us[illegible] Stomach Drainage for Cases of Intestinal Obstruction and Peritonitis. A. Bassler, New York.

Southern Medical Journal, Nashville

October, IV, No. 9, pp. 657-724

85 Surgical Treatment of Dyspepsia. S. McGuire, Richmond, Va.
86 Home Treatment of Tuberculosis, with Comments on Use of Tuberculin. C. M. Nice, Birmingham, Ala.
87 Rudolf Virchow. W. A. Bryan, Nashville, Tenn.
88 Improved Diagnostic Methods in Kidney Surgery. J. M. Mason, Birmingham, Ala.
89 Some of the Unfamiliar, Atypical Forms and Controverted Phases of Tuberculosis. R. Matas, New Orleans, La.
90 Practical Value of Ross "Thick Film" Method in Diagnosis of Malaria. W. M. James, Canal Zone.
91 Treatment of Pulmonary Tuberculosis. F. S. Meara, New York.
92 Dysmenorrhea. J. R. B. Branch, Macon, Ga.

Boston Medical and Surgical Journal

October 19, CLXV, No. 16, pp. 587-628

93 Some Considerations of Ether Anesthesia. D. F. Mahoney, Boston.
94 Local, Spinal and General Anesthesia. F. Allen, Boston.
95 Intratracheal Insufflation as Anesthetic Method. W. C. Quinby, Boston.
96 Apparatus for Administration of Ether by Intrathoracic Insufflation. A. Ehrenfried, Boston.
97 Hints on General Anesthesia. R. W. Hornabrook, Melbourne, Australia.
98 Anesthesia. W. M. Boothby, Boston.
99 Management of Spinal Curves. E. H. Bradford, Boston.
100 Coexistent Epidemic Cerebrospinal Meningitis and Malaria. W. B. Collins, Northampton, Mass.
101 Nitrous Oxid and Oxygen Anesthesia. A. H. Mandell, New Bedford, Mass.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

October 7, No. 2649, pp. 781-868

1 *Transplantation of a Segment of Small Intestine to Repair Resected Sigmoid Flexure. W. S. Fenwick.
2 Dermatitis Produced by East Indian Satinwood (Chloroxylon Swietenia). J. T. Cash.
3 Cystic Ovary in Pelvis. E. L. Gowlland.
4 Varieties and Treatment of Asthma. G. A. Gibson.
5 Diagnosis of Fever Without Physical Signs. W. H. White.
6 *Lung Syphilis. J. D. Stanley.
7 Simple Method for Therapeutic Inhalation of Carbonic Acid Gas. W. Ewart.
8 Colon Dyspepsia. T. S. Wilson.
9 *Recent Advances in Cardiac Therapeutics. F. W. Price.
10 Treatment of Drug Addiction and Prophylaxis of Relapse. W. O. Jennings.
11 Clinical De[illegible] by Means of Pachon's [illegible]
12 *Mania Follo[illegible]
13 Acute Subcutaneous Emphysema. J. S. Goodall and W. N. Kingsbury.
14 Vascular Diseases of Skin and Their Relation to Other Morbid States. T. C. Fox.
15 *Unusual Case of Skin Pigmentation. G. H. Lancashire.
16 Treatment of Eczema. G. G. S. Stopford-Taylor.
17 Certain Affections of Skin Resulting from Degeneration of Blood-Vessels. J. Galloway.
18 *Case of Pruritus Vulvæ. J. G. Tomkinson.*

1. **Transplantation of Segment of Small Intestine.**—In the case cited, Fenwick did a colotomy for cancer of the sigmoid. Three months afterward he resected the growth and did the following transplantation: A loop of ileum fairly low down was taken and a portion about 5 in. in length was double clamped off. The bowel was divided between the clamps and the mesentery, with great caution to avoid blood-vessels towards its root, for a distance of 2½ inches. The continuity of the small gut was next restored by uniting the cut ends in front of the mesentery of the freed segment. The segment of the small intestine, it was found, could easily be brought into excellent position between the cut ends of the large. It was decided to employ two Murphy buttons, no risk of leakage existing because the colotomy was above the proposed junctions. This was accordingly done and proved not very difficult. After the anastomoses were completed a few stitches were placed, drawing together the cut edges of the mesenteries to avoid the possibility of internal hernia. Finally, the abdomen was closed rapidly by interrupted fish-gut sutures, and a rubber tube, with some gauze packing, was inserted at the lower end of the incision. The whole operation, from first incision to the last stitch, occupied ninety minutes. There was little or no shock.

On the seventh day after the operation the Murphy buttons were found free, the upper in the colotomy, the lower in the rectum. Twenty days after the resection, an attempt was made to close the colotomy under local anesthesia (eucaine). This proved very difficult but was eventually effected. A normal motion was passed just over three weeks after the major operation. The bowels now move naturally every morning and the patient states that very little fecal matter comes through the fistula and then only when straining at stool. Throughout the rest of the day he suffers no inconvenience.

6. **Lung Syphilis.**—In a series of 1,000 cases, notified as phthisis, Stanley found two certain of syphilis and one doubtful. In the last seven years he has collected fifteen cases, some of which have come to post-mortem examination and some are still under observation—observation which confirms the opinion that they are syphilitic and not tuberculous. The lesions produced by syphilis are various and may affect the lungs and pleura only, or the trachea and bronchi. There may be lesions in the secondary or tertiary stages. Those due to secondary syphilis are not of much clinical importance, but at the same time should not go unrecognized. The chief interest, however, is in the lesions produced in the tertiary stage. They are various and a clear idea of them is necessary for diagnosis during life and it must be admitted that descriptions of the morbid anatomy of late syphilitic lung lesions are not clear. The trachea, bronchi, lung tissue and pleura may be affected separately or all together. There may be diffuse mediastinitis. It is the incidence of the lesions in these structures that determines the clinical character of the case. The trachea is particularly liable to tertiary ulceration.

As concerns the lung tissue, the early effects produced by syphilis are: (1) An intense cell proliferation which fills the alveoli and infiltrates the septa, peribronchial, subpleural, and perivascular tissues. It is specially marked in the alveolar walls, causing the epithelium to desquamate. The vessels show the typical changes of syphilis. The process may be general or affect portions only of the lung. It gives a peculiar gelatinous appearance and may be called syphilitic pneumonia. The process is fairly rapid, judging by a case Stanley had under observation, in which the lungs were extensively involved in five or six weeks. It is, in fact, an acute interstitial pneumonia. The next variety he calls early diffuse sclerosis. The lung, which is not misshapen, looks, and still more, feels tough. It is pale in places, in others intensely mottled. It shows great increase of connective tissue in all situations, the alveolar walls particularly. Miliary gummata are plentiful. The most striking change, however, is the large quantity of proliferating elastic tissue. Stained with lithia carmine and thymol fuchsin, it may be seen penetrating in all directions, forming a dense network in the septa around the bronchi and the vessels in the pleura. Proliferation of elastic tissue occurs in tubercle, but in tertiary syphilis the process is much more intense. The alveolar changes are also marked. The spaces are often filled with large cells loaded with pigment. The changes in the vessels are those characteristic of syphilis. The third form is a dense sclerosis. The lung may be contracted and misshapen, the pleura, whether adherent or not, is much thickened. Lastly, while there may be gelatinous infiltration, diffuse early sclerosis or intense fibrosis without coarse gumma, Stanley has not seen coarse gumma without some or all of these lesions. Thus one may regard the infiltrative and fibrosing lesions as the most important.

The symptoms and signs vary. There may be none definite when the lung is undergoing partial gelatinous infiltration and even when the lesion is an extensive sclerosis they are difficult to appreciate fully. Weakening of the breath sounds is considered an important sign and was noted in three of Stanley's cases. Symptoms and signs of lung syphilis are much more definite when the lesions are chronic. Hemoptysis is more suggestive of slow ulceration of a bronchial surface in its mucosanguineous appearance and its tendency to last for several weeks. Cough is irregular and may be paroxysmal, as happened in four of Stanley's cases. It may be very slight in proportion to the actual amount of lung lesion, for in another case it was never a prominent symptom, but on the postmortem examination there was extensive lesion of the lung tissue, but none of the bronchi, trachea, or glands. In a case quoted it was particularly interesting to note pyrexia, sweating and wasting, symptoms which occurred in some of the other cases and have been recorded by other observers. They may be regarded as intercurrent and due to mixed infection, but they certainly help in the imitation of phthisis by syphilis. Their rapid disappearance under antisyphilitic treatment is striking.

9. See The Journal, October 14, 1911, p. 1325, abstract No. 64.

12. **Mania Following Pneumonia.**—The cases to which Tyson calls attention are those in which the mania follows the pneumonia and he has had the opportunity of seeing three of these cases; the literature contains only six others. The following are the characteristic points in this form of pneumonic mania: The pneumonia is of the stenic or classical type. The people affected are mostly of a neurotic temperament. It generally happens in youngish people under 40 years of age. It is associated with great sleeplessness and there seems great difficulty in the treatment of this symptom. The disease need not necessarily be very acute or much lung involved. In fact, the amount of lung involved does not seem to bear any relation to the amount or length of stay of the mania. It occurs after the crisis. The delirium that occurs early in the disease is a much more severe type of mania than the mania following the crisis. The pathology, Tyson supposes, is toxic, but he is unable to say why some suffer in this way and others do not. The prognosis of this mania is good and it should be looked on as part of the pneumonia and should not be specially treated as a case of mania *per se*, and the question of asylum treatment need not be considered. Tyson mentions this point because in one of his cases the physician in attendance considered the mania should be treated in an asylum. Perhaps the most important thing in this trouble is to treat the sleeplessness. Food is the best hypnotic, but it may be necessary to give some morphin or some other narcotic. The bowels should be attended to. A tactful, wise and firm nurse is a necessity, and convalescence, if possible, should be carried out in the country.

15. **Skin Pigmentation.**—As a child Lancashire's patient had a patch of dark skin on the throat, which slowly increased in size. When 16 years old this patch was treated by some strong "peeling" process, after which it remained stationary in size and depth of shade. About last Christmas the discoloration began to spread from the region of the old patch down the neck toward the chest and shoulder on the left side. Recently the extension had become much more rapid. Since the onset the patient had been much troubled by attacks of shooting and stabbing pains in the pigmented area; these came on several times during the day and night and were growing daily more severe. The pain usually lasted a few minutes and—this was the interesting feature—appeared to be rapidly followed each time by a fresh deposit of pigment. The pigment involved the whole area between the sternomastoids and the left side of the neck, also the deltoid region of the left shoulder and a considerable part of the left pectoral region down to the nipple level. The pigmented area is sharply demarcated from the right front of the chest wall by a straight-lined border just to the right of the sternum and therefore just beyond the middle line of the body. The pigment itself is seen to be deposited in the form of large freckles of varying shades from dark brown to café-au-lait. On the chin there was on both sides a much fainter and more diffuse pigmentation, so slight as to be scarcely noticeable. The general health was fair. There were no signs of organic disease. Rest, a bromid draught at bedtime and an anodyne application for the shooting pains produced a remarkable improvement. The pains had ceased and there was no fresh pigmentation. On the other hand, there had been remarkable absorption of pigment, which was everywhere considerably paler.

Journal of Tropical Medicine and Hygiene, London

September 15, XIV, No. 18, pp. 269-284

19 Enteric Fever in South India. P. E. Turner.
20 Transmission of Amakebe by Means of Rhipicephalus Appendiculatus, the Brown Tick. A. Theiler.
21 Blackwater Fever. L. G. Fink.
22 Mosquito-Borne Diseases in Queensland. E. S. Jackson.

Lancet, London

September 30, CLXXXI, No. 4596, pp. 931-986

23 *Possible Toxic Origin of Some Kinds of Insanity. E. Goodall.
24 *Surgical Treatment of Some Forms of Epilepsy. W. Alexander.
25 *Viability of Human Carcinoma in Animals. C. L. Williams.
26 *Experimental Comparison Between Salvarsan, Mercury and Iodid of Potassium as Antisyphilitics. J. McIntosh and P. Fildes.
27 Case of Intussusception of Appendix Vermiformis in Adult. J. H. Watson.
28 *Foreign Bodies in Vermiform Appendix. L. A. Bidwell.
29 Case of Erysipelas Complicated with Meningitis Following Intranasal Operation; Recovery. L. A. Parry.
30 Septic Infections of Hands and Fingers. C. A. Pannett.
31 Case of Congenital Atresia of Duodenum. W. F. Roe and E. H. Shaw.

October 7, CLXXXI, No. 4597, pp. 987-1054

32 Research in Medicine and Women in Research. Sir H. T. Butlin.
33 Lucidity in Writing. H A. Miers.
34 Middlesex Hospital of To-Day and Yesterday. C. Berkeley.
35 *Consumption and Order of Birth. W. C. Rivers.
36 Two Cases of Tumor of Prefrontal Lobe in Criminals. W. C. Sullivan.
37 *Strangulation by Volvulus in an Abnormal Sac Lying Within General Peritoneal Cavity. R. L. Knaggs.
38 Bradycardia in Association with Uremia. E. E. Laslett.
39 Open-Ether Anesthesia. J. Robertson.
40 *Case of Persistent Chyluria Markedly Influenced by Posture. F. Charteris.
41 Case of Necrosis of Almost Entire Clavicle. R. E. Halahan.
42 Representation of Honorary Medical Staffs on Boards of Management of Voluntary Hospitals. E. S. Reynolds.
43 Some Administrative Defects of the National Insurance Bill. G. P. Forrester.

23. Abstracted in The Journal, Oct. 28, 1911, p. 1491.

24. **Surgical Treatment of Epilepsy.**—There are some cases of epilepsy, says Alexander, that prove intractable to general medical and hygienic treatment, and these, unless the disease be somehow arrested, will soon terminate in imbecility and death. In these cases the affected motor area is covered by more or less edema of the pia-arachnoid and this edema probably so affects the cells of the cortex as to predispose to, or cause, the epilepsy and imbecility. Alexander says we can, by the operation of fenestration of the dura mater, drain these edematous areas and prevent reaccumulations. By the operation the progress of the disease has always been retarded in twenty cases under his operation. In several the fits have stopped and in many have been reduced to fractions of the original number.

25. **Viability of Human Cancer in Animals.**—The method adopted by Williams was that of implanting subcutaneously, with aseptic precautions, several selected portions of a malignant growth, freshly excised (pieces being put aside for microscopic observation) and following up the changes taking place in the cells of the growth by reference to sections of the implanted masses, removed for examination at different periods. The time elapsing between separation from the human body and the completion of implantation varied between twenty and twenty-five minutes. Implantation was effected by puncturing the skin with a straight cataract knife

and introducing on the point of the knife a piece of tissue aving the form of a cube of 1 to 1.5 mm. The portions of umor implanted were removed at intervals of one to thirteen ays. The number of tumors used for implantation was rty-one: ten tumors were, however, employed in connection th unsuccessful implantations, so that only thirty-one need referred to here. Of these, nineteen were epithelioma venteen primary growths, two secondarily infected glands), were scirrhus of the breast (nine primary growths, one ndarily infected gland), one was spheroidal-celled carci- a and one rodent ulcer. plantation was made on the monkey (twenty tumors), oit (four tumors), pigeon and guinea-pig (each two tumors), cat, rat and mouse (each one tumor). The usual causes of unsuccessful experiments were suppuration and failure to recover the pieces of tumor implanted. Suppuration was not met with so frequently as was expected, even in the case of growths ulcerated on the surface; when present sometimes every piece of a tumor used for implantation became the seat of suppuration, in other cases suppuration occurred at some of the sites of implantation, while at others no inflammatory reaction occurred. A more serious difficulty was failure to recover the portion of tumor implanted. Portions of human carcinoma implanted into animals were observed during the first five days to retain their vitality and to exhibit mitosis after implantation. After the expiration of this period no evidence of vitality was observed. Mitosis was markedly inhibited within twenty-four hours of implantation, while the life of the implanted cells was abolished less rapidly.

26. **Salvarsan, Mercury and Iodid of Potassium as Antisyphilitics.**—The authors found that salvarsan in experimental syphilis of the rabbit possesses spirocheticidal properties much in advance of mercury. Potassium iodid is not a direct antisyphilitic.

28. **Foreign Bodies in Vermiform Appendix.**—Bidwell has found a foreign body in about 20 per cent. of the appendices which he has removed. The interesting point is that a foreign body by itself sets up very little irritation and does not produce acute inflammation; it is only when a fecal concretion forms around it that acute appendicitis will occur. According to many authorities, no foreign body or fecal matter can enter a healthy appendix, and it is stated that some previous inflammation must occur in order to make it possible for the body to enter. If this is the case, a foreign body by itself could not have very much influence in producing appendicular disease. It is, however, more reasonable to suppose that the irritation of the foreign body excites an extra secretion of mucus, which is deposited on the body, producing the concretion and so becomes the starting point of an attack of appendicitis.

35. **Consumption and Order of Birth.**—Rivers observed in patients' case-sheets which showed ordinal position in the family, a large number of entries of eldest-born children, and from this observation conceived the idea that clinical pulmonary tuberculosis might affect such persons more than others. Brehmer's and Riffel's reports show that both first- and second-born offspring appear subject to consumption at a very much higher rate than younger members of a family. Rivers' own observations in 263 cases confirm those of other clinicians. Mitchell, among 443 idiots and imbeciles, found 138 first-born, or 31.1 per cent. Langdon Down claims liability to idiocy among primiparous children because 24 per cent. of the 2,000 idiots (illegitimate largely excluded) examined by him were first-born children. Among Wilbar's 675 there were 191 first-born; among 100 of Beach's, twenty. Thus, respecting the exact amount of increased risk of developing phthisis that an eldest child runs, no direct data exist from which to calculate. As matters stand, one may say that whereas in 1,228 consumptives (494 upper middle-class Germans; 353 middle- and lower-class inhabitants of Lancashire, London, and Northumberland, and 381 mainly lower-class Lancastrians) one should find 196 eldest children, one actually does find 281, i. e., eldest-born consumptives are in excess, say, 40 per cent.

Of 141 of Rivers' last cases there is one patient with diabetes mellitus, three who suffer from hay fever, and three the subjects of congenital xerodermia. The diabetes patient is an eldest child; two of the hay fever patients are likewise, while the remaining one is second-born, and two of the ichthyotics are eldest-born. Yet the first- and second-born of these 141, only number fifty-eight and the first-born alone only twenty-eight. This, in Rivers' opinion, would seem to point to the conclusion that the tendency of the eldest-born to become consumptive is an innate tendency and the hypothesis is strengthened, he says, if we appeal to the literature of the subject. Lunatics and idiots are certainly very liable to consumption, and, as has been seen, it is exceedingly likely that they are disproportionately often eldest-born. Again, if faulty upbringing by inexperienced parents is to be made responsible for elder-born criminals, lunatics, idiots and perhaps men of genius, this would render ordinary human responsibility sufficiently formidable. The existing evidence negatives the view that infection is the sole cause.

37. **Strangulation by Volvulus.**—In the mid-region of the abdominal cavity in Knaggs' case was a large rounded cyst or sac, through the semi-transparent wall of which distended coils of bowel could be seen. The upper coils were large and pale and had a somewhat transverse direction; the lower were black, as if the subject of strangulation, and had an obliquely-vertical arrangement. Below the cyst, the lower portion of the abdomen, which was little more than the pelvis, was occupied by coils of black small intestine which concealed the terminal portion of the large gut. Above the cyst and encroaching on its shelving upper surface, lay the liver, and in the left hypochondrium the stomach. The great omentum was huddled up into a mass which fitted into the space between the cyst and the stomach. The colon was not visible, but it was found to encircle the cyst, except at its lowest part, and to be attached to its wall. To permit of the further investigation of parts the strangulated small bowel occupying the area below the cyst was removed. It was a single loop some 3 or 4 feet long and the two ends of the loop passed into the cyst through an aperture on its lower surface. The two ends were tied a few inches from the aperture. The whole loop was deeply congested, of a purplish-black color and infiltrated with blood. It was not constricted at the neck and the finger could be introduced alongside the gut through the aperture into the cyst. The entrance to the sac looked downward and was on the level of the promontory of the sacrum. It was large enough to admit three fingers. The cyst occupied the small intestine area within the arch of the colon.

To continue the examination it was opened by a central vertical incision through its whole length which terminated by dividing the boundary of the aperture. The two cut ends of the strangled loop were continuous with similarly affected coils within the sac. There had been no strangulation by the neck of the sac and no signs of constriction were presented by the portions of bowel that occupied it. The greater part of the ileum was in this deeply congested state, which was evidently due to a twist of the lower portion of the mesentery, but the exact mechanism was not made out, as owing to the inexperience of the manipulator the relations were disturbed and lost, and the previous removal of the loop outside the sac added to the difficulties of its demonstration. The jejunum was distended but not strangled. On the posterior surface of the sac was the quite normal attachment of the mesentery. It lay entirely within the sac. At the upper part the third and fourth parts of the duodenum were in their natural position and covered as usual by peritoneum. The terminal portion of the ileum passed out of the opening to join the cecum, which lay just outside and to the right of the mouth of the sac. The ileum at this point was attached by its mesentery, which blended with the margin of the aperture on the right side. The condition may be fairly described as a second and abnormal lesser peritoneal sac, whose natural contents were the small intestine and its mesentery. Some of the contents had escaped through the orifice into the general peritoneal cavity.

40. **Persistent Chyluria.**—When Charteris' patient was right the urine was practically free from fat, but if he lined at an angle greater than 45 degrees, he promptly gan to pass milky urine; but if he sat in an upright chair the urine remained clear. The most milky urine was passed when he lay flat on his back. On the other hand, he could lie flat on his face without the urine becoming milky, but it became milky as soon as he turned round and lay on his back. The conclusion Charteris came to was that the chyluria was due to some intermittent pressure exerted on the thoracic duct by some factor which only became operative when the patient assumed certain attitudes. Probably the obstruction was a pedunculated calcareous gland. There was no enlargement to be felt in any of the abdominal glands and a Roentgen-ray examination failed to reveal any calcareous masses.

Bristol Medico-Chirurgical Journal

September, XXIX, No. 113, pp. 201-287

44 Medical Organization and Growth of Medical Sciences in Seventeenth Century, Illustrated by Lives of Local Worthies. G. Parker.

45 End-Results of Operations on Stomach and Duodenum. A. R. Short.

Annales de Gynécologie et d'Obstétrique, Paris

September, XXXVIII, No. 9, pp. 497-560

46 Influence of Syphilis in Producing Deformity in the Fetus. (De l'influence de la syphilis sur la genèse des anomalies et des monstruosités fœtales.) P. Rudaux and V. Le Lorier.

47 Primary Chorio-Epithelioma in Broad Ligament Six Years After Last Pregnancy. P. Lecène.

48 Abnormal Insertion of Umbilical Cord; Three Cases. (Insertion vicieuse du cordon.) L. Job.

Annales de l'Institut Pasteur, Paris

September, XXV, No. 9, pp. 625-704

49 *Experimental Research on Defense of Organism Against Tuberculosis. (Sérothérapie-immunité.) A. Calmette and C. Guérin.

50 Thoracic Tuberculosis in Cattle Generally of Digestive Origin. (A propos du mémoire de M. Chaussé.) A. Calmette and C. Guérin.

51 Passage of Diphtheria and Tetanus Antitoxin into the Aqueous Humor. (Sur le passage de l'antitoxine diphtérique et tétanique dans l'humeur aqueuse.) V. Morax and G. Loiseau.

52 Antibodies in Aqueous Humor of Immunized Animals. (Recherches sur la présence des anticorps dans l'humeur aqueuse des animaux immunisés.) Y. Manouélian.

53 Aqueous Humor Not Bactericidal for Anthrax Bacilli. (Recherches sur la prétendue action bactéricide de l'humeur aqueuse à l'égard de la bactéridie charbonneuse.) Y. Manouélian.

54 Trypanosomes in Frogs and Toads in Indo-China. (Trypanosomes des batraciens du Tonkin.) C. Mathis and M. Leger.

55 Zymase is a Diastase. (La Zymase est-elle une diastase?) A. Lebedeff.

56 The Inulase of Aspergillus Niger. J. Boselli.

49. See editorial in THE JOURNAL, October 28, p. 1461.

Presse Médicale, Paris

September 9, XIX, No. 72, pp. 721-728

57 Leprosy. (Etat actuel de nos connaissances sur la bactériologie et l'étiologie de la lèpre.) E. Jeanselme.

September 23, No. 76, pp. 753-760

58 *Polyneuritis and Polyneuritic Pseudotabes with Gastric Ulcer. (Les complications nerveuses de l'ulcère de l'estomac.) M. Klippel and M. P. Weil.

September 27, No. 77, pp. 761-768

59 Syphilitic Lesions of Meninges and Vascular System. (Etude biopsique de la méningo-vascularite syphilitique.) P. Ravaut.

60 Country Wells. (Hygiène rurale. Les puits.) E. Arnould.

September 30, No. 78, pp. 769-784

61 *Surgery of the Spleen. (Chirurgie de la rate.) M. Hartmann.

62 Extension Appliance for Fracture of Forearm. (Attelle à extension continue pour les fractures de l'avant-bras.) H. Judet.

63 *Post-Typhoid Epilepsy. (De l'épilepsie consécutive à la fièvre typhoide.) J. Chalier and Juilhe.

64 Alternating Arhythmia. (Le rythme alternant.) C. Lian.

58. **Nervous Complications of Gastric Ulcer.**—Klippel and Weil think that they were the first to call attention (1909) to polyneuritis developing as a complication of gastric ulcer. Their assertions were confirmed by Couréménos and Conos. Other disturbances in the digestive tract have been incriminated as the cause of nervous disturbances, Christani having reported a case of polyneuritis from coprostasis. and Duvernay one of peripheral neuritis from stasis of stomach content, and cured by a gastro-enterostomy. Babinski ascribes peripheral neuritis in some cases to auto-intoxication from the intestine and Klippel has reported cases of neuritis from changes in the liver. In the two cases reported in detail the diagnosis of gastric ulcer was unquestionable, as also in a case cited from the literature; all had paresis with loss of the deep and superficial reflexes while the nerves and muscles were more or less tender—the syndrome indicating flaccid quadriplegia resulting from polyneuritis. There was nothing to suggest tabes, but in one case the neuritis was more of the Korsakoff type. In another case reported the clinical picture suggested tabetic gastric crises in an old syphilitic, but the trouble proved to be a polyneuritic pseudotabes complicating gastric ulcer in a syphilitic. As the gastric ulcer had caused no appreciable symptoms, the pain had been the first sign of trouble. It is probable that many of the cases published as hemorrhagic tabetic gastric crises belong in this category of gastric ulcer complicated by polyneuritis. There have been thirteen of these hémorrhagic gastric crises cases reported in French literature.

61. **Surgery of the Spleen.**—Hartmann describes with fifteen illustrations the surgical treatment of spleen affections and discusses the results to date in various clinics. The high mortality with rupture of the spleen imposes an immediate operation, he says, and splenectomy offers the best prospect for success. With the enlarged spleen of malaria, splenectomy seldom does much good unless the spleen is compressing the neighboring organs. Fevrier found a mortality of 26 per cent. in 117 cases of this kind, but it was only 13 per cent. in Johnston's sixty-one cases since 1900, and if the splenectomy is restricted to a movable malarial spleen, the mortality is still less, there having been only one death in Bessel Hagen's twenty-six cases.

63. **Epilepsy Consecutive to Typhoid.**—Chalier and Juilhe report the case of a previously healthy young man who developed epilepsy after a severe attack of typhoid, the seizures typical of true epilepsy during the six years to date. Dide found typhoid antecedents in seven of 120 epileptics examined. The typhoid evidently induces injury of the nerves and the resulting cicatrix becomes one of the causal factors of the epilepsy. Such a cicatrix may remain latent until some disturbance in the circulation or other insignificant cause may bring on what Pierret calls recall phenomena. These phenomena may be motor, sensory or psychic, or they may be of the type of the epileptic seizure.

Archiv für Gynækologie, Berlin

XCIV, No. 3, pp. 599-925. Last indexed Sept. 9, p. 933

65 Atresia of Follicles in Mammalian Ovaries. (Follikelatresie in Säugetierovarien.) W. Benthin.

66 *Placenta Prævia. (Zur Behandlung der Placenta praevia.) B. Schweitzer.

67 Acetonuria During Pregnancy and the Puerperium. (Die Acetonkörper des Harnes bei Gebärenden und Wöchnerinnen.) B. H. Jägerroos.

68 The Muscle Fibrils in the Uterus and in Uterine Tumors. (Zur Kenntnis der Myofibrillen im Uterus und in Uterusgeschwülsten.) F. Daels.

69 *Retroflexion of the Uterus. (Retroflexio uteri.) F. Lehmann.

70 Research on Syncytiotoxin. (Experimentelle Studien mit menschlichen Syncytiotoxin.) W. Weichardt, F. Mosbacher and E. Engelhorn.

71 Hormone from the Ovaries and the Uterus Musculature in Origin and Arrest of Uterine Hemorrhage. (Rolle der Ovarien und der Uterusmuskulatur bei der Entstehung und dem Verlaufe der Uterusblutungen.) A. Theilhaber.

72 Influence on Lactation of Placenta, Fetus and Ovaries. (Placenta, Fötus und Keimdrüse in ihrer Wirkung auf die Milchsekretion.) B. Aschner and C. Grigoriu.

73 Histogenesis of Adenocancroids of the Uterus. O. Büttner.

74 Modifications of Blood-Pressure and Heart Action in Pregnancy and Puerperium. (Blutdruck und Herzarbeit in der Schwangerschaft, während der Geburt und im Wochenbett.) R. T. Jaschke.

75 Psammoma Sand in the Ovary. (Ueber Psammomkörner im Ovarium.) C. Koch.

76 *Tuberculosis in 3,514 Female Cadavers. (Die Tuberkulose bei der Frau, insbes. die Bauchfell- und die Genitaltuberkulose, die Tuberkulose des uropoetischen Systems, die Tuberkulose während Schwangerschaft und Wochenbett, auf Grund von 3,514 Sektionen.) H. Schlimpert.

66. **Placenta Prævia.**—Schweitzer reviews the experiences in the last four years with 100 cases of placenta prævia at the Leipsic maternity in charge of Zweifel. These later experiences teach, he says, the advantages of hastening delivery when there is severe hemorrhage in the second half of pregnancy. Rupture of the fetal membranes is the prefer-

able procedure, but when this does not succeed in arresting the hemorrhage or the presentation is not favorable he uses the inflatable bag if the mother and child are in good condition; he prefers combined version if the mother is growing weak and the child is dead or not viable. Cesarean section should be preferred for the cases of threatening hemorrhage, the cervix still closed; in the infected cases, combined version with perforation or perforation alone at once. He advises in the home, combined version and patient waiting for spontaneous expulsion. Every effort should be made to insure asepsis and prevent further loss of blood. His observation having shown that the blood has less coagulating power when there has been considerable hemorrhage, he uses an astringent tampon, the gauze dipped in alcohol or a solution of alum instead of the ordinary iodoform gauze. Hysterectomy may be required for threatening after-hemorrhage from laceration or atony.

69. **Retroflexion of the Uterus.**—Lehmann has examined 100 women, including fifty with retroflexion and fifty without, after filling the bladder as full as possible and having the women recline or stand alternately and then examining them again half an hour after the bladder has been emptied. He devotes twenty-four pages to the tabulated findings in each case to study whether the bladder functioning can alter the position of the uterus, his conclusions being negative. Other experiments showed that the uterus can correct its position by contraction of the musculature under the influence of induced electricity, but the long application and the strength of the current required render the procedure scarcely applicable in the clinic to date. Of the total 2,000 patients with dislocations of various kinds, thirty-seven were permanently cured by pessary treatment alone; there were no complications in seven cases, but thirty patients with some slight affection in the ovaries or tubes or around the uterus had the displacement cured by the pessary treatment alone. His experience thus indicates that mild complications rather favor pessary treatment.

76. **Tuberculosis in 3,514 Female Cadavers.**—Schlimpert found signs of tuberculosis in 2,173, that is 61.8 per cent. of the total 3,514 cadavers, but in only 29 per cent. had it been diagnosed during life. His figures show further that nearly 50 per cent. of the population furnishing the material die of tuberculosis. The highest mortality from tuberculosis was between 20 and 30, next in the three following decades. The lungs were affected in 84.3 of the 2,173 tuberculous cadavers, the intestines in 32.3, the peritoneum in 4.9 and the genitals and meninges in 3.35 per cent. each, the pericardium in 2.2 and the urinary system in 1.4 per cent. No evidence of a primary isolated tuberculosis of the genital organs or of the urinary apparatus was discovered in any instance. A blood-borne origin was possible in the majority of the genital cases, probable in twenty-eight of the seventy-three cases and certain in five. The peritoneum was involved in 42.5 per cent. of the seventy-three cases of genital tuberculosis. There was no case in which the genital tuberculosis seemed to have been the cause of death; in 95.9 per cent. death was due to tuberculous lesions elsewhere. In the tuberculosis of the urinary system, infection was blood-borne and descending in most cases. Nearly 8 per cent. of the 3,514 women were pregnant or had just been delivered, and 139 of these 273 were tuberculous, that is, 15.9 per cent. The data confirm the assumption that tuberculosis is aggravated by child-bearing.

Berliner klinische Wochenschrift

October 2, XLVIII, No. 40, pp. 1785-1828

77 Salvarsan in Syphilis. (Die
llis—Betrachtungen über
M. v. Zeissl. (Der weitere
im Kl. Marinelazarett Kiel
78 Tuberculosis Mortality in Pr
79 Sugar Content in the Blood i
Blutzuckergehalt bei Addis
80 Determination of Diastase in the Urine. (Bestimmung des
s.) A. Galambos.
81 y Mother of Child Patient. S. Hadda.
82 * Active Mesothorium. (Biologische
Wirkung des Mesothoriums. II. Strahlenwirkung und
Minami.
83 ure Medium. (Ueber Bakterien-
Nährböden.) A. Kindborg.

84 Permeability of Collodion and "Transpellicular" Treatment in Dermatology. (Ueber transpellicular Behandlung, insbesondere mit Schälcollodium.) P. Unna, Jr.
85 *Pfannenstill's Two-Route Method of Treating Lupus. (Ueber die Behandlung des Lupus vulgaris im Gaumen mit Jodnatrium und Wasserstoffsuperoxyd nach Dr. Pfannenstill's Methode.) J. Schaumann.
86 Operative Treatment of Pes Equinus. (Behandlung des Spitzfusses.) G. Müller.

82. **Mesothorium.**—This is a radio-active substance which is being extensively investigated in Germany, as there is no production of radium in that country, while mesothorium is an accessible by-product. The present article reports research on the action of the rays on the digestive ferments, part of the research now under way on the biologic action of mesothorium.

85. **The Two-Route Method in Treatment of Lupus.**—Schaumann describes excellent results in a case of lupus of the face and hard palate in which he applied Pfannenstill's method, acting on the lesion by potassium iodid taken internally and application of ozone or a dioxid externally. The latter was applied by means of a prothesis fitting over the hard palate, holding the impregnated cotton against the lesion. He ascribes the benefit to a caustic action of the combining drugs, as the efficacy depends on the setting up of an ulceration. He therefore warns that the method is not applicable to lesions on the face as it is liable to induce mutilation which is unnecessary by the Finsen method of radiotherapy.

Correspondenz-Blatt für Schweizer Aerzte, Basel

October 1, XLI, No. 28, pp. 961-992

87 *Treatment of Heart Disease. (Behandlung von Herzkrankheiten.) H. Eichhorst.

87. **Heart Disease.**—Eichhorst reviews the general principles of treatment of heart disease, insisting that the general practitioner often fails to appreciate the wonderful benefit that can be derived from rest and nourishing food, without drugs. He is liable to ascribe the benefit to the drug he happens to prescribe, but it cannot be emphasized often enough, Eichhorst insists, that complete repose is the most indispensable measure in treatment of weakness of the heart muscle whether drugs are given or not. Next in importance is the diet, especially milk. Milk is easily digested, nourishing and has a diuretic action, but even this should not be allowed in excess and not for too long. The Karell cure often renders good service in heart disease with edema. The patient is given only 200 c.c. of milk four times a day for four days, and the edema disappears and the heart action improves remarkably even in cases refractory to drugs. He warns, however, that the Karell cure may induce collapse in rare cases, so that it is scarcely advisable outside of an institution. If repose and a milk diet have proved inadequate by the end of twenty-four or forty-eight hours to strengthen the myocardium, it is time to give a heart tonic unless conditions had imposed the necessity for this from the start. Another measure which he has often found useful is upward stroking of the edematous legs, the feet raised for a time morning and evening, with passive flexion of the legs at the ankles, knees and hip joints, striving to pump the edema out of the legs. Mechanical measures, puncture or incision, have been known to entail fatal collapse, as also hot air baths, but venesection often gives surprising relief. When the heart has recuperated, the physician must insist on physical and mental rest; physicians seldom recognize the importance of emotional factors in heart disease. Eichhorst reports three cases in which young people with well compensated heart trouble died suddenly after a sudden emotion of anger or delight. Strict individualization is necessary in deciding as to marriage for girls with valvular defects: he has a patient of 39 who has borne seven children without mishap, notwithstanding mitral stenosis since the age of 10, but delicate, anemic, sensitive girls should be dissuaded as a rule from matrimony.

Deutsches Archiv für klinische Medizin, Leipsic

CIII, Nos. 5-6, pp. 423-618. Last indexed October 28, p. 1496

88 Elimination of Creatin and Creatinin in Disease. (Kreatinin- und Kreatinausscheidung unter pathologischen Verhältnissen.) A. Skutetzky.
89 *Spectroscopy in Diagnosis of Occult Hemorrhage in Gastro-Intestinal Canal. (Bedeutung der spektroskopischen Blutproben.) K. Csepai.

90 Epilepsy and Convulsions in Relation to Gastro-Intestinal Disease. (Die Epilepsie und andere Krampfformen in ihren ätiologischen Beziehungen zu den Erkrankungen der Verdauungsorgane.) W. Ebstein.
91 *Folds in the Rectal Mucosa. (Falten der Mastdarmschleimhaut.) H. Lindenberg.
92 *Inhibition by Serum of Mercuric Chlorid Hemolysis. (Die Sublimathämolyse und ihre Hemmung durch das Serum.) F. Port.
93 The Symptoms of Prolonged Anuria. (Die klinischen Erscheinungen bei langdauernden Anurie.) W. Brasch.
94 The Electrocardiogram. (Zu der Klinik des Elektrokardiograms.) W. v. Wyss.
95 Variations in Concentration of the Serum in Health (Schwankungen der Serumkonzentration beim gesunden Menschen.) A. Böhme.
96 Elimination of Nitrogen and Salt Through Skin in Kidney Disease. (Welche Mengen von Stickstoff und Kochsalz werden durch die Haut von Nierenkranken ausgeschieden?) F. O. A. Loofs.
97 *What Becomes Later of "Growth Hypertrophy of the Heart" and "Juvenile Arteriosclerosis?" (Wie verhält sich die sogen. "Wachstumshypertrophie des Herzens" und die "juvenile Arteriosklerose" im späteren Lebensalter.) A Faber.
98 Anatomic Changes in Sweat Glands During Internal Diseases. (Gibt es anatomische Veränderungen der Schweissdrüsen bei inneren Krankheiten?) W. Veil.

89. **Spectroscopic Diagnosis of Occult Blood.**—Csepai asserts that examination of the stools for traces of invisible blood with the spectroscope gives far more reliable findings than chemical or other tests for occult hemorrhage. The reagents needed for the work are cheap and durable while the technic is simple and rapid. He has the patient refrain from meat and green vegetables for three days before the examination. Then to 5 gm. of the stool are added 5 c.c. of concentrated acetic acid plus 5 c.c. ether and 5 c.c. alcohol. The mixture is ground up well in a mortar and then filtered through an unmoistened pleated filter until 2 or 3 c.c. of fluid collects in the test tube. He then adds 1 or 2 c.c. of pyridin to the extract, then 1 or 3 drops (no more) of ammonium sulphid solution; the spectroscope then shows the spectrum for hemochromogen if there are traces of blood in the fluid. The test is complete in six or eight minutes. The reagent $(NH_4)_2S$ must be made up fresh and be kept in a dark colored bottle with glass stopper. It keeps perfectly for ten days. No time is to be lost after adding the reagent before examining with the spectroscope as the spectrum soon fades. An ordinary spectroscope with artificial light answers the purpose. He tabulates the comparative findings with this and other tests, all showing the reliability of this simple technic and that it is as sensitive as the catalytic tests.

91. **Ridges in Rectal Mucosa.**—Lindenberg found one to six folds or valve-like protrusions in the rectal mucosa in all but one of nine cadavers examined with the rectoscope.

92. **Mercuric Chlorid Hemolytic Test.**—Port examined the serum of thirty-one patients with various affections to determine the relative protecting power of the individual serum against the hemolytic action of mercuric chlorid and of saponin. The index of the protecting power was abnormally low with gastric cancer, pregnancy nephritis and tuberculosis, while it was abnormally high in diabetes, typhoid and severe parenchymatous nephritis.

97. **What Becomes Later of "Growth Hypertrophy of the Heart" and Juvenile Arteriosclerosis.**—Faber has been reexamining lately thirty persons who in youth presented signs of what was called at the time "growth hypertrophy of the heart" or juvenile arteriosclerosis. He tabulates the clinical findings then and now; in very few has the cardiovascular system developed to entirely *normal conditions* since. There is still in the majority some evidence that this system is a little below par.

Deutsche medizinische Wochenschrift, Berlin

September 28, XXXVII, No. 39, pp. 1777-1824

99 The Progress in Infant Feeding in the Last Few Years. (Ueber Säuglingsernährung.) H. Koeppe.
100 Emotional Vasomotor Blood Tides. (Zur Pathologie der [illegible] Blutverschiebung.) J. Citron.
101 [illegible] Mercuric Chlorid. (Vergleichende [illegible] die [illegible] Sublimat und Sublamin.) F. Cror [illegible]
102 *The Poison of Mosquito a[illegible] as Gift der Stechmücke. Ein [illegible]") C. Bruck.
103 Resistance of Spirochetes to Arsenic. (Experimentelle Untersuchungen über die Arsenfestigkeit der Spirochäten.) M. Rothermundt and J. Dale
104 Combined Salvarsan and Mercury Treatment in Syphilis. (Ueber Abortivkuren der Syphilis durch kombinierte Quecksilber-Salvarsanbehandlung.) E. Arning.
105 Behavior of Salvarsan in the Organism. (Verhalten des Salvarsans im Organismus.) G. Stümpke and P. Siegfried.
106 Experiences with Salvarsan in Syphilis. (Weitere Erfahrungen mit der intramuskulären und intravenösen Salvarsaninjektion.) N. Joannidés.
107 *Cancer of the Bladder. (Blasenkarzinome und -sarkome.) H. Riese.
108 Gunshot Wound from Pistol, the Muzzle in Rectum; Recovery. (Zur Kasuistik der Bauch-Schussverletzungen.) R. Herzenberg.

102. **Mosquito Poison.**—Bruck has isolated from the common mosquito its toxin, which he calls culicin. He obtained it by grinding the mosquitoes, *Culex pipiens*, in a mortar with salt solution containing a little glycerin and centrifugating. He found that culicin contained a hemolysin and an urticaria-producing principle, and describes research with it and research on mosquitoes to find whether they could convey the syphilis spirochetes. He never was able to get the mosquitoes to bite a syphilitic lesion; they always avoided the morbid tissues and settled only on the sound tissue encircling them. At the same time he found that the mosquitoes can take up spirochetes on their feet and thus transmit infection. In his one positive experiment in this line, from a mosquito that had been in contact with a primary sore on a rabbit and, fifteen minutes later, had had its legs rinsed with salt solution, he obtained a motile, unmistakable *Spirochæta pallida*, which was found in the rinsing water.

107. **Cancer of the Bladder.**—Riese removed a carcinoma from the bladder of a woman of 66 over a year ago and there has been no sign of recurrence since. In another case the patient died of senile weakness four years after removal of a carcinoma occluding the mouth of the left ureter in the bladder. There was no sign of recurrence in this case and neither in a third case in which the interval since has not been so long. He removed the bladder on account of sarcoma in a girl of 10 with gonorrhea, but the debilitated child succumbed an hour later. Notwithstanding the fatal outcome in this case, he is convinced that removal of the bladder for malignant disease is not a difficult operation, comparatively speaking, and it offers good prospects in appropriate cases.

Deutsche Zeitschrift für Chirurgie, Leipsic

August, CXI, Nos. 1-3, pp. 1-320

109 *Operative Treatment of Pulsating Exophthalmos. (Die chirurgische Behandlung des durch Aneurysma arteriovenosum der Carotis int. im Sin. cavernosus hervorgerufenen pulsierenden Exophthalmus.—Ein neues Verfahren.) O. Zeller.
110 When Should Interval Appendicectomy Be Done? (Wann soll im Intermediärstadium und Spätsadium der akuten Appendizitis operiert werden?) W. Merkens.
111 Research on Fat Embolism. (Untersuchungen über Fettembolie.) N. B. Grøndahl.
112 Laceration of the Spleen. (Subkutane Zerreissungen der gesunden und kranken Milz.) Vorwerk.
113 Unusual Complications of Cholelithiasis. H. Finsterer.
114 Isolated Dislocation of the Scaphoid Bone. (Isolierte Kahnbeinverrenkungen am Fuss.) W. Goebel.
115 *Nerve Blocking for Anesthetizing the Legs and in Treatment of Sciatica. (Ueber Leitungsanästhesie an der unteren Extremität mit Bemerkungen über die Technik von Injektionen an den Nervus ischiadicus bei Behandlung der Ischias.) A. Läwen.
116 Bladder Diverticulum. (Zur Diagnostik und Behandlung des angeborenen Blasendivertikels.) F. Kroiss.
117 Cured Rupture of Duodenum. (Ein geheilter Fall von Duodenalruptur.) W. Wolf.
118 Extradural Anesthesia. (Experimentelle Untersuchungen über Extraduralanästhesie.) A. Läwen and W. v. Gaza.

109. **Pulsating Exophthalmos.**—The exophthalmos may be the result of an arteriovenous aneurysm of the internal carotid in the sinus cavernosus. When this is the case the symptoms are characteristic, especially the cessation of the pulsation and noises when the carotid is compressed. Systematic compression of the common carotid is suggested by Zeller as a logical method for relieving and curing the trouble, permitting a collateral circulation to develop, while the heart is trained to its increased task and it is determined whether the patient is able to stand the exclusion of the carotid. If symptoms on the part of the brain develop under compression of the carotid, ligation of the carotid is contra-indicated. If the systematic compression fails to relieve, Zeller severs the internal carotid between two ligatures as close to the base of the skull as possible. The external carotid should not be

ligated, for reasons which he enumerates. A course of tonics and heart stimulants should precede the operation if necessary, and it should be restricted to the severest cases. It can be done under local anesthesia. If no brain symptoms develop under systematic compression of the carotid, the ligation is not contra-indicated even in the elderly. Heart tonics and venesection may be needed after the operation. He discusses the experiences in this line on record to date, with the various attempts that have been made to cure pulsating exophthalmos, and reports a case of traumatic origin. His cases teach the value of ligation of the internal carotid in these cases and that ligation of the external branch is useless. Complications in his case prevented a successful outcome, but the phenomena observed in this case possibly point the way to successful management of such cases in future.

115. **Nerve Blocking in the Thigh.**—Läwen has been studying the best technic for injecting an anesthetic into the thigh to block conduction of pain in the sciatic nerve, similar to Braun's *Leitungsanästhesie* of the leg. The anesthetic seems to diffuse into the nerve trunk or the special ganglia or even into the spinal cord, and thus arrest the pain. The anesthesia thus induced permits in thin patients a painless amputation. The patient lies in the ventral decubitus and the needle is inserted at a point 2 cm. outside of the tuberosity of the ischium, and about 20 or 30 c.c. of fluid is injected perpendicularly at the assumed depth of the nerve trunk. Then the needle is partly withdrawn and pointed outward and a little more of the anesthetic is injected. The perpendicular injection blocks the tibial nerve, especially if a little stronger concentration of the anesthetic is used at this point. Then the needle is introduced again at a point 3 cm. inside of the greater trochanter, slanting it inward a little and ejecting the liquid at three depths, pointing it so that all the soft parts between the two injecting points are infiltrated with the solution. In one of the ten cases reported in detail he thus blocked the nerves, including the femoral, tibial and obturator, using a total of 1.8 gm. novocain in thirty minutes, with the result that the whole leg became insensible to needle pricks and the leg was amputated without the slightest pain, not even when the nerves were pulled. He thinks this technic for the injections is promising for treatment of sciatica.

Medizinische Klinik, Berlin

October 1, VII, No. 40, pp. 1527-1564

119 *Cholelithiasis. (Erkennung und Behandlung des Gallensteinleidens.) F. Schultze.
120 Prevention of Puerperal Fever. (Verhütung des Kindbettfiebers.) C. J. Gauss.
121 Management of Contracted Pelvis. (Therapie bei engen Becken.) J. Richter.
122 *Treatment of Pleurisy Without Effusion by Fastening Down the Arm. (Behandlung der Pleuritis sicca unter Ruhigstellung durch Armfesselung.) E. Kuhn.
123 *Breathing Cool Air in Treatment of Nasal Catarrh. (Zur Behandlung des Nasenkatarrhs.) C. P. Dannehl.
124 Prophylaxis of Ophthalmia Neonatorum. (Beobachtung aus der Praxis bei der prophylaktischen Einträufelung in die Augen Neugeborener.) J. Frommholz.
125 Operative Treatment of Exophthalmic Goiter. (Umfrage über die chirurgische Behandlung der Basedowschen Krankheit.) A. Neumann, O. Binswanger, A. v. Eiselsberg and Ortner.
126 High Colloidal Nitrogen Content in Urine Not Pathognomonic of Cancer. (Zur klinischen Bedeutung und Kritik eines Harnbefundes bei Carcinomatösen nach Salkowski.) S. Jshioka.

119. **Cholelithiasis.**—Schultze outlines a certain method of procedure for differentiating gall-stone disease by exclusion. He first seeks to exclude epigastric hernia, the symptoms from which may simulate those from gall-stones; then he excludes circumscribed peritonitis, gastric ulcer and cancer. With the former the pains are connected with the meals, while in cholelithiasis the attacks of pain may occur at any time, often suddenly in the night. Duodenal ulcer, and affections of the small and then of the large intestine are next considered. Especially with nervous and membranous colitis, the pains are liable to resemble those with gall-stones except that they recur more frequently, and are not accompanied by jaundice. Appendicitis may induce adhesions causing disturbances similar to those from gall-stones. With acute pancreatitis the collapse is severer than with gall-stone colic and the stomach region generally protrudes while otherwise the trouble may suggest ileus. The possibility of gastric crises should also be borne in mind and the reflexes tested and hyperesthetic zones sought for. Schultze has had cases of coincident gastric crises and gall-stones. Calculi in the kidney may be excluded by roentoscopy and wandering kidney by manual examination. With pain from spastic conditions in the stomach or intestine, the gall-bladder is not specially tender. Differentiation of cholelithiasis is unusually difficult when the patient is inclined to hysteria. Tenderness on palpation of the right hypochondrium and especially at the point where the ninth intercostal nerve pierces the rectus muscle, is the most reliable sign of gall-stone trouble when connected with colics. Another characteristic sign is the radiation of the pain to the right shoulder and into the right arm. In some cases this radiated pain dominates the clinical picture, and the patients are treated for years for assumed neuritis until passage of a gall-stone cures the "neuritis." When "neuralgia" of this character is complained of, the skin of the upper abdomen should be tested for extrasensitiveness to contact. The right upper abdominal wall is also liable to be left rigid during and after gall-stone colic. Schultze insists on bed rest, possibly for weeks, for patients with gall-stone pains until the region is no longer tender. Hot compresses to the upper abdomen and hot water internally aid in the cure, supplemented by plenty of water to drink and five meals a day of readily digestible food to keep the bile flowing freely. The meal is the best cholagog, he adds, and no pharmaceutical means are known to dissolve or expel gall-stones.

122. **Immobilization of the Arm in Treatment of Pleurisy.**—Kuhn ties the wrist of the affected side to the thigh on the other side, thus preventing any movement of the arm and shoulder and giving the inflamed pleura a chance to heal. He has found this measure very useful in several cases of pleurisy without effusion, fastening the arm down under the clothing and not releasing it until the temperature was permanently normal. He warns that tuberculosis contra-indicates this measure as the immobilization is not complete enough to be beneficial in this infection; the partial immobilization thus induced tends rather to aggravate a chronic process.

123. **Breathing Exercises in Treatment of Nasal Catarrh.**—Dannehl applies cool air to reduce the congestion in the nose, having the patients breathe moderately deep through the most congested side, expelling the warmed air rapidly through the mouth, inspiration longer than expiration. The best method is to do these exercises during a tranquil walk morning and evening. If they have to be done in the house, he has the patient recline on each side in turn during the breathing exercises. He reports excellent results from them even in chronic catarrh.

Monatsschrift für Kinderheilkunde, Leipsic

X, No. 6, pp. 281-324

127 Chemical Means for Keeping Drawn Breast Milk. (Ueber Konservierung von Frauenmilch durch Perhydrol.) W. Knape.
128 Fermentation of Flour and Oatmeal. (Weitere Untersuchungen über die Gärung von Weizen- und Hafermehl.) M. Klotz.
129 A Motor Neurosis Probably Responsible for Rumination in Infants. (Zur Pathogenese der Rumination im Säuglingsalter.) F. Lust.

Münchener medizinische Wochenschrift

September 26, LVIII, No. 39, pp. 2041-2096

130 Treatment of Myoma. (Myombehandlung.) E. Opitz.
131 Prevention and Treatment of Postoperative Peritonitis. (Verhütung und Behandlung der postoperativen Bauchfellentzündung.) E. Holzbach.
132 *Babinski's Sign Preceding Uremia. (Die diagnostische Bedeutung des Babinskischen Phänomens im präurämischen Zustand.) H. Curschmann.
133 Pigs and Rats as Hosts of Trichina. (Rolle von Schwein und Ratte als Trichinenwirte.) C. Stäubli.
134 Roentoscopy of Peristalsis of Large Intestine. (Zur genaueren Kenntnis der grossen Kolonbewegungen.) G. Schwarz. (Dickdarmperistaltik im Röntgenbilde.) L. Fischl and F. Porges.
135 Transient Glycosuria with Phlegmon. (Vorübergehende Glykosurien bei phlegmonösen Erkrankungen.) G. Becker.
136 Experimental Kala-Azar. (Histologische Veränderungen und parasitärer Befund bei einem an Infektion durch Leishmania-Donovani verendeten Meerschweinchen.) G. Franchini.
137 Case of Idiosyncrasy to Ten Substances. V. E. Mertens.
138 Sulphur as Antidote for Mercurial Poisoning. (Ueber therapeutische Versuche bei Sublimatvergiftung.) C. Bruck.

132. **Diagnostic Importance of the Babinski Sign with Impending Uremia.**—Curschmann called attention some years ago to the great importance, both for diagnosis and prognosis, of modifications in the reflexes as a sign of the morbid condition preceding the uremia syndrome. The various reflexes may be exaggerated or abolished, but he has invariably found the Babinski sign permanently positive from the start, even in cases with loss of all the other tendon reflexes. Little attention has been paid to his statements in regard to the importance of this sign of impending uremia and he here reaffirms them anew and relates a number of typical examples. The first patient was a boy of 10 with acute nephritis but unimpaired consciousness, the tendon reflexes abnormally weak, the abdominal wall reflex abolished, but the Babinski sign phenomenon was pronounced on both sides, and Curschmann, solely from this fact, assumed impending uremia and began prophylactic treatment, venesection, saline infusion and heart tonics. Sixteen or eighteen hours later the uremia made its presence known by convulsions, but the next day improvement was evident and the boy recovered, the Babinski sign subsiding as the convulsions ceased. The contrast between the behavior of this sign and of the other reflexes is particularly characteristic of impending uremia; in some cases the other reflexes may be exaggerated during the uremic phenomena but the Babinski sign warns of danger hours before. He has witnessed in some cases exaggeration of the tendon reflexes during suburemic phases of chronic nephritis. This characteristic behavior of the Babinski is liable to occur with all forms of nephritis, except that he found the forms tending to edema more inclined to exaggeration of the reflexes than the nephritis without this tendency. In conclusion Curschmann discusses the mechanism of and theory for this behavior of the Babinski sign as the purest expression of the loss of cerebral inhibition.

Virchows Archiv, Berlin

CCV, No. 2, pp. 161-320

139 Blastoma in Mice. M. Friedmann.
140 Neoplasms Induced by Injections of Rottenstone. (Künstlich hervorgerufene Neoplasmen nach Kieselgur-Injektionen.) J. I. Schirokogoroff.
141 Goiter in Silesia. (Ueber den Schlesischen Kropf.) C. Davidsohn.
142 Postbranchial Body and Branchial Passages in Man. (Zur Kenntnis des postbranchialen Körpers und der branchialen Kanälchen des Menschen.) S. Getzowa.
143 Closure of the Ductus Venosus and Anatomy of the Portal Vein. (Verschluss des Ductus venosus Arantii nebst Bemerkungen über die Anatomie der Pfortader.) E. Richter.
144 Pathologic-Anatomic Changes in Certain Organs After Poisoning with Various Chemotherapeutic Substances. N. Andreew.
145 Passage of Feces Past or Around Old Retained Feces. (Mechanismus der Kotpassage bei Kotretention auf Grund einschlägiger Obduktionsbefunde.) A. Brosch.
146 Comparative Research on the Indophenol-Oxydase Reaction in Salivary and Lacrimal Glands in Mammals. R. Spanjer-*Herford.*
147 Amyloid Bodies in Interior of Ganglion Cells. (Vorkommen amyloider Körperchen im Innern der Ganglienzellen; zugleich ein Beitrag zum Studium der amyloiden Substanz im *Nervensystem.*) *G. R. Lafora.*
148 Physiologic and Irritation Motor Phenomena in Leukocytes. (Physiologische und Reizbewegungserscheinungen an Leukozyten.) *B. Ullmann.*
149 Contribution to Embryology of Human Kidney. (Polyzystisches Nierenrudiment bei Fehlen des Ureters und Vas deferens. llkörper des Penis und zahlreiche bei einem 8 monatlichen Fötus.) G in No. 3.

Wiener klinische Wochenschrift, Vienna

September 28, XXIV, No. 39, pp. 1351-1382

150 Uterus Bicornis. (Vorzeitige Deziduaausstossung bei Uterus Physiologie der Verdop- Menstruation während der
151 *Pl via cervicalis.) R. Hofstätter.
152 *Tuberculin Treatment of Urogenital Tuberculosis. R. Bachrach and F. Necker.
153 Early History of Theory of Internal Secretions. (Théophile de Bordeu—1722-1776—als Vorläufer der Lehre von der inneren Sekretion.) M. Neuburger.

151. **Placenta Prævia.**—When the placenta is inserted in the cervix the lip of the os protrudes, the cervix ballooning, resembling the aspect of an abortion impacted in the cervix, the suggestion of abortion being reenforced by the signs of pregnancy and preceding hemorrhages. Sometimes the cervix is friable. If the external os is open a little, crumbling masses can be palpated above it, which bleed at a touch, in the early stages the condition resembling malignant disease. Hofstätter reports a case in which the diagnosis was correctly made; the patient recovered notwithstanding profuse hemorrhage from the inability of the lower segment of the uterus to contract properly. In future in such a case he would at once remove the uterus by the vagina unless there had been only a slight loss of blood, in which case he would try to master the situation by delivering the child, separating the placenta and applying a firm tampon, ready to do hysterectomy at once in case the hemorrhage persisted. He warns that it is impossible to count on spontaneous separation of the placenta from the site in the cervix.

152. **Tuberculin Treatment of Urogenital Tuberculosis.**—In this communication from Zuckerkandl's surgical service the experiences with twelve patients with tuberculosis of the kidneys given tuberculin treatment are reviewed, the conclusions being that operative cases do not require tuberculin treatment unless the tuberculosis involves other organs besides the kidney; in this case tuberculin treatment is advisable. In the rare cases in which the tuberculosis is detected in its early stages by discovery of tubercle bacilli in the urine without essential suppuration or impairment of kidney functioning, tuberculin treatment may give fine results. The experiences related do not show that the focus is liable to heal under tuberculin treatment, but the general health improves and the patients gain in weight. The tuberculin treatment should never be carried to a point to induce reaction. In the inoperable cases it may be applied as a last resort.

Zeitschrift für klinische Medizin, Berlin

LXXIII, Nos. 3-4, pp. 169-385. Last indexed Oct. 14, p. 1332

154 Râles at the Apices. (Rasselgeräusche über den Lungenspitzen.) Külbs.
155 Resistance to Poisons of Known Chemical Constitution. (Resistenz gegenüber Giften bekannter chemischer Konstitution.) P. Fleischmann.
156 Urobilinuria in Croupous Pneumonia. (Bedeutung der Urobilinurie für Diagnose und Prognose krupösen Pneumonie.) W. Hildebrandt.
157 essure in Arhythmia. (Graphische bei unregelmässiger Herzwirkung.)
158 Excretion of Urine and Salt in Diabetes Insipidus. J. Forschbach and Weber.
159 Comparison of Phonoscope Heart Findings with Electrocardiograms. (Registrierung von Herztönen und Herzgeräuschen mittels des Phonoskops und ihre Beziehungen zum Elektrokardiogramm.) O. Weiss and G. Joachim.
160 Determination of Viscosity of Blood. (Weiteres zur Kritik der *Viskosimetrie.*) *H. Determann.*
161 Roentotherapy of Tumors in Mediastinum. (Zur Kenntnis der Mediastinaltumoren und ihrer Behandlung mit Röntgenstrahlen.) E. Steinitz and G. Joerdens.
162 Physical-Chemical Changes in the Blood After Paracentesis. ection and Subcutaneous Infusion. der Transsudate.) A. Barlocci. Veränderungen des Blutes nach Aderlass und subkutaner Infusion.) C. Oliva.
163 Radium Emanations in the Blood Under Treatment. (Ueber den Gehalt von Radium-Emanation im Blut des Lebenden bei den verschiedenen Anwendungsformen zu therapeutischen Zwecken.) F. Gudzent.
164 "Large Lymphocyte" Leukemia. (Zur Lehre von der grosslymphozytären Leukämie.) K. Thomas.
165 Coincident Diabetes Insipidus and Mellitus. (Fall von gleichzeitige Diabetes insipidus und Diabetes mellitus.) K. A. Heiberg.
166 Dissociation in Liver Functioning. (Zur funktionellen *F. Falk and P. Saxl.*
167 (in the Lungs. (Der intrapulmonale es Menschen.) A. Pütter.
168.*Influence of Injections of Gelatin on Kidney Disease. (Zur Frage des Einflusses der subkutanen Gelatineinjektionen bei Nierenerkrankungen.) J. B. Studzinski.

168. **Injections of Gelatin in Kidney Disease.**—Studzinski reports his experiences and analysis of the findings in fourteen cases of kidney disease and in two healthy persons with sound kidneys, all given subcutaneous injections of gelatin in the hope of influencing a hemorrhagic tendency. He did not find any modification of the amount or specific gravity of the urine in any case with the ordinary technic. With chronic interstitial or parenchymatous nephritis without parenchymatous hemorrhages, the injections did not seem to do any special harm as only in one case did they transiently increase the amount of albumin and formed elements in the urine. When the kidney disease was accompanied by a tendency to parenchymatous hemorrhage in the kidney, the injections not only failed to arrest the hemorrhages but dis-

tinctly aggravated this local hemorrhagic tendency. Internal administration of the gelatin, on the other hand, is free from danger and may be of some use without causing any untoward by-effects. The case of uremia reported by Bauermeister in which fatal symptoms of uremia followed the internal administration of gelatin, is probably explainable by the preexistence of the uremia. This patient was given the gelatin for uterine hemorrhage and epistaxis, but the treatment had been preceded by evidence of chronic parenchymatous nephritis inducing uremic disturbances.

Zentralblatt für Gynäkologie, Leipsic

September 30, XXXV, No. 39, pp. 1361-1392

169 Pituitary Extract as Preliminary to Cesarean Section and to Promote Labor Contractions. (Pituitrin als Vorbereitung zum Kaiserschnitt und als Mittel gegen Wehenschwäche.) P. Kroemer.

170 Total Amount of Blood During Pregnancy and Puerperium. (Untersuchungen über die Gesamtblutmenge in der Gravidität und im Wochenbett.) L. Zuntz.

171 *Spontaneous Puerperal Infection. W. Poten.

171. The Question of Spontaneous Puerperal Infection.—Poten thinks that this question can be decided only by comparison of long series of parturient women with and without internal examination. In the last three years the vagina was left untouched in about half of the 3,171 maternity cases in his service, and yet two of these women succumbed to septic fever during the puerperium. To deny the possibility of spontaneous infection is to shut one's eyes to facts, he asserts.

Gazzetta degli Ospedali e delle Cliniche, Milan

September 19, XXXII, No. 113, pp. 1195-1202

172 Streptobacillus Isolated from Moribund Pellagrins. (Su di un reperto batteriologico positivo in casi gravissimi di pellagra.) N. Ramella.

September 21, No. 114, pp 1203-1210

173 Mechanism of Action of Glycosuria-Checking System. (Contributo sperimentale sul meccanismo di azione dei sistemi antiglicosurici.) P. Paolucci.

September 24, No. 115, pp. 1211-1226

174 The Integral Interrelations Between the Organic Fluids, and the Theory of Hormones. (L'integrazione umorale dell'organismo e la teoria degli ormoni.) F. Bottazzi.

175 Fracture of the Skull: Three Cases. (Tre craniectomie per frattura complicata della volta cranica.) A. Franchini.

September 26, No. 116, pp. 1227-1234

176 Diagnostic Comparative Determination of Starch Digesting Ferment in Saliva, Stool and Urine. (Evoluzione comparata dell'amilasi nella fecce e nell'urina degli infermi.) A. Sampogna.

Policlinico, Rome

September 24, XVIII, No. 39, pp. 1225-1256

177 Precipitin Reaction in Diagnosis of Tuberculosis. (La precipitoreazione nella diagnosi della tuberculosi.) F. Fasani-Volarelli.

178 Intoxication from Quinin Without Jaundice or Hematuria. (Alcuni casi di intossicazione da chinino senza itterizia ed ematuria.) S. Spampinato.

September, Medical Section, No. 9, pp. 381-428

179 Research on the Heart Sounds. (Ancora intorno alla genesi del primo tono o suono del cuore.) D. Salvatore.

180 Research on the Cardiovascular Murmurs. (Sul meccanismo dei rumori di soffio cardio-vascolari e sulla loro propagazione.) C. Pezzi.

181 *The Wassermann Reaction in Foundlings. (La reazione di Wassermann sugli esposti.) M. Flamini.

182 Roentographic Diagnosis of Gastric Cancer. F. Perussia.

September, Surgical Section, No. 9, pp. 385-432

183 Fracture of the Second Cervical Vertebra Without Injury of the Spinal Cord. (Frattura dell'epistrofeo, senza lesioni nervose, e frattura dello sterno per caduta da cavallo.) R. Dalla Vedova.

184 The Elastic Network in the Walls of Varicose Veins. (Il sistema delle "gitterfasern" nella parete delle vene varicose.) G. Razzaboni. Commenced in No. 8.

185 Phenomena After Removal of Thyroid, Parathyroids and Testicles or Ovaries. (Tiro-paratiroidectomia e castrazione.) F. Purpura.

186 *The Cobra Reaction with Surgical Lesions. (La cobrareazione di Calmette in talune affezioni chirurgiche.) G. Aperlo.

187 Antitoxic Power of Lymphatic Glands. (Sul potere antitossico delle glandole linfatiche.) F. Lofaro.

181. The Wassermann Reaction in Foundlings.—Flamini obtained a positive reaction in thirteen of 170 foundlings at the Rome asylum. This proportion of 7.5 per cent. is about the same as that obtained at the Milan asylum. It is much lower than the proportion of positive reactions in the blood from the umbilical cord obtained in maternities. He thinks that this testifies to the presence in the blood of substances from the maternal blood which give the Wassermann reaction.

186. The Cobra Reaction in Surgical Affections.—Aperlo has been applying Calmette's cobra venom test in fifteen cases of surgical tuberculosis, three of sarcoma, four of carcinoma and eight with various other surgical affections. The reaction was positive in all the sarcoma cases and negative in the carcinoma. In the tuberculous cases the cobra reaction alone was positive in three, the cutaneous reaction alone in four, and both were positive in five other cases. He reports these findings without drawing any general conclusions from them.

Riforma Medica, Naples

September 25, XXVII, No. 39, pp. 1065-1092

188 Staining Technic for Differentiating Cancer. (La dimostrazione delle fibrille reticolari con il metodo Bielschowsky per la diagnosi differenziale tra sarcoma ed epitelioma.) C. Licini.

189 Action of Pituitary Extract and Epinephrin on the Fatigue Curve. (Azione di alcuni estratti di glandole a secrezione interna sulla curva della fatica.) A. Trerotoli.

Norsk Magazin for Lægevidenskaben, Christiania

October, LXXII, No. 10, pp. 1003-1056, and Supplement

190 *Obstacles to Marriage from the Medical Standpoint. (Om [illegible] ra et medicinsk synspunkt.) Holmboe.

191 [illegible] Cultures of the Micrococcus Meliten- [illegible] l renkultur av Micrococcus melitensis.) P. Bull and H. M. Gram.

192 *The Wassermann Reaction and Its Clinical Importance. (Den Wassermannske reaktion og dens kliniske betydning.) R. Krefting.

190. Obstacles to Marriage from the Medical Standpoint.—Holmboe was commissioned by the Norwegian government to report on this subject, and he here presents the results of his study. The questions involved were principally determination of the lowest age-limit for candidates for matrimony, mental or physical disease or consanguinity as an obstacle to marriage, and whether persons known to the authorities to be suffering from contagious or heritable diseases should be allowed to marry, and whether medical examination of candidates for matrimony should be made compulsory. He states that according to the statistics at hand, the girls of the wage-earning classes in Norway as a rule begin to menstruate late, one-fourth not until after the seventeenth year, consequently he thinks that the lower limit for matrimony should not be under 18. It is 16 according to the present legislation. His conclusions are unfavorable to compulsory medical examination of candidates as liable to prove illusory for reasons which he enumerates.

192. The Wassermann Reaction.—Krefting's monograph is published as a separate pamphlet of 152 pages and discusses the Wassermann reaction from different points of view, including the historical and life insurance standpoints. He has been studying the reaction for nearly three years and has made 2,500 Wassermann tests. In 322 cases of latent syphilis the reaction was negative in 75 per cent. and he is convinced that these negative patients are more liable to be spared further manifestations of their syphilis than those giving a positive reaction. He has examined a number of these negative patients repeatedly during the last two and a half years and has never obtained a positive response, and this persisting negative reaction is a favorable sign. A positive reaction must be accepted, he thinks, as a sign of active syphilis, no matter what the stage of the disease in question. One of his patients with syphilis of ten years' standing and who had had the disease apparently in a very mild form, gave a positive reaction when tested a year ago after a long period of freedom from manifestations, and yet a month after the test had given positive findings a gumma developed on the thigh. In another case a man of 45 with infection of eighteen years' standing applied for relief from incipient cataract and the Wassermann test was positive. A month or so later a gumma was discovered on the shoulder. Another patient of the same age, with a history of infection seventeen years before but so slight that some physicians doubted the correctness of the diagnosis, gave a positive reaction when tested two years ago and a year later had to be taken to an asylum with acute paralysis, fatal in three months. Some of the patients giving a positive reaction, but apparently free from manifestations of the disease complain a little of their hearts so that there is probably some aortitis or aneurysm developing although no physical signs of such can be detected. In regard to life insurance, Krefting states that he has applied the test a few times on behalf of insurance companies but is not aware that they acted on the outcome of the test; he thinks, however, that the companies will in time have to take the Wassermann reaction into account in dubious cases, and as it is in the interest of the companies, they will have to assume the expense. An interesting chapter relates Krefting's experience with the Wassermann findings under mercurial and salvarsan treatment. It seems to indicate that salvarsan has a more regular and a more pronounced action on the syphilis than any other treatment. He even reports a case of apparent *reinfection* after the patient had been presumably cured under salvarsan of his primary syphilis. He applied for treatment January 19, with a primary sore swarming with spirochetes, the Wassermann negative. Three intravenous injections of salvarsan were given between January 21 and March 10, the Wassermann reaction constantly negative, and no manifestations of the syphilis were observed beyond the primary sore. June 3 the young man returned with two primary sores both swarming with spirochetes and the Wassermann reaction was positive; infection had occurred six weeks before. The syphilis this time ran a somewhat livelier course with roseola and some glandular involvement. Krefting remarks that this is the most carefully investigated case of presumable reinfection known to him, the primary sores each time having been diagnosed as such by other physicians. Krefting never obtained a positive reaction in primary syphilis until seven or eight weeks after infection. He obtained a positive reaction in every one of the 317 patients with syphilis in the secondary stage, including eighty-two women, and in eighty-four of eighty-seven syphilitics in the tertiary stage, the interval since infection ranging from two to thirty years. Among his 322 cases of syphilis free from symptoms, three to forty years after infection, the reaction was positive in 27 per cent.: among the 233 negative cases the patients at some time had had tertiary manifestations.

Ugeskrift for Læger, Copenhagen

September 28, LXXIII, No. 39, pp. 1403-1450

193 Hygienic Necessity for Pure Food Legislation. (Hygiejniske Krav til Kontrollen med Levnedsmidler.) A. Erlandsen.

Upsala Läkareförenings Förhandlingar

N. S. XVI, No. 7, pp. 481-590. Last indexed Sept. 9, p. 836

194 Experiences with Orthopedic Exercises and Surgery, 1910 Från Dr. Haglunds gymnastisk-ortopedisk-kirurgiska privatanstalt i Stockholm.) P. Haglund.

195 Alkaptonuria and Ochronosis. (Ett och annat om alkaptonuri och okronos.) C. T. Mörner.

196 Inhibition of Action of Invertin. (Om hämning af invertinets verkan.) A. Eriksson.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

Lippincott's New Medical Dictionary. A Vocabulary of the Terms Used in Medicine, Dentistry, Veterinary Medicine, and the Allied Sciences with Their Pronunciation, Etymology and Significance, Including Much Collateral Information of a Descriptive and Encyclopedic Character. By Henry W. Cattell, A.M. (Laf.), M.D. (U. of P.), Editor of International Clinics. Second Edition. Flexible Leather. Price, $5 net. Pp. 1108, with illustrations. Philadelphia: J. B. Lippincott Co., 1911.

The Diseases of Infancy and Childhood. For the Use of Students and Practitioners of Medicine. By L. Emmett Holt, M.D., ScD., LL.D., Professor of Diseases of Children in the College of Physicians and Surgeons (Columbia University), New York, assisted by John Howland, A.B., M. D., Professor of Diseases of Children in Washington University, St. Louis. Sixth Edition. Cloth. Price, $6 net. Pp. 1112, with 240 illustrations. New York: D. Appleton & Co., 1911.

A Text-Book of Ph   f Ham-
marsten, Emeritus Prof   Chem-
istry in the University of   rom the
Author's Enlarged and R   John A.
Mandel, ScD., Professor   iversity
and Bellevue Hospital   Cloth.
Price, $4 net. Pp. 964.   11.

Chemical and Microscopical Diagnosis. By Francis Carter Wood, M.D., Professor of Clinical Pathology, College of Physicians and Surgeons, Columbia University, New York. Third Edition. Cloth. Price, $5 net. Pp. 791, with 194 illustrations. New York: D. Appleton & Co., 1911.

A Manual of Pathology. By Guthrie McConnell, M.D., Professor of Pathology and Bacteriology, Temple University, Medical Department, Philadelphia. Second Edition. Flexible Leather. Price, $2.50 net. Pp. 531, with illustrations. Philadelphia: W. B. Saunders Co., 1911.

Diseases of the Ear, Nose and Throat, Medical and Surgical. By Wendell Christopher Phillips, M.D., Professor of Otology, New York Post-Graduate Medical School and Hospital. Cloth. Price, $6 net. Pp. 847, with 545 illustrations. Philadelphia: F. A. Davis Co., 1911.

Transactions of the Fourth Annual Meeting of the Minneapolis, St. Paul and Sault Ste. Marie Railway Surgical Association. Held at St. Paul, Minn., Nov. 16 and 17, 1910. Paper. Pp. 173 John H. Rishmiller, Secretary, Minneapolis, Minn.

Applied Anatomy and Oral Surgery. For Dental Students. By Robert H. Ivy, M.D., D.D.S., Assistant Oral Surgeon at the Philadelphia General Hospital. Cloth. Price, $1.50 net. Pp. 280, with illustrations. Philadelphia: W. B. Saunders Co., 1911.

Sixth Annual Report of the Associated Committees of the Massachusetts Medical Society for the Prevention and Control of Tuberculosis. September, 1911. Paper. Pp. 63. John B Hawes, 2d, M.D., Secretary, 3 Joy Street, Boston.

Food Values. Practical Tables for Use in Private Practice and Public Institutions. By Edwin A. Locke, A.M., M.D., Instructor in Medicine, Harvard Medical School, Boston. Cloth. Price, $1.25 net. Pp. 110. New York: D. Appleton & Co., 1911.

Bibliographie der Neurologie und Psychiatrie für das Jahr 1910. Von der Redaktion der Zeitschrift für die gesamte Neurologie und Psychiatrie. Paper. Price, 10 marks. Pp. 202. Berlin: Julius Springer, 1911.

Report of the Veterinary Director General and Live Stock Commissioner, J. G. Rutherford. For the Year Ending March 31, 1910. Paper. Price, 10 cents. Pp. 128. Ottawa: C. H. Parmelee, 1911.

Annual Report of the School Medical Officer, Robert A. Lyster, M.D., Ch.B., B.Sc., D.P.H. For the Year 1910. Paper. Pp. 74 Public Health Department, The Castle, Winchester.

Eighth Annual Report of the Barlow Sanatorium (Incorporated). Chavez Ravine, Los Angeles, Cal. Paper. Pp. 48. Dr. W. Jarvis Barlow, Secretary, Los Angeles, Cal.

Medical Communications of the Massachusetts Medical Society. Volume XXII. Paper. Pp. 408. W. L Burrage, Secretary, 282 Newbury Street, Boston.

New Patents

Patents of Interest to Physicians

1,000,481.	Truss, William H. Allen, Imperial, Cal.
1,000,706.	Respirator, Dana D. Barnum, Worcester, Mass.
1,000,732.	Making nitric oxid, Friedrich Hausser, Kaiserslautern, Germany.
1,000,423.	Solid oil containing medicine, Otto B. May, New York, N. Y.
1,000,433.	Manufacture of cream of tartar, John B. Moszozenski, New York, N. Y.
1,000,750.	Wrapping for hydrotherapeutic purposes, Maria P. P. B. Nerli, Florence, Italy.
1,000,852.	Solid perfume mixture containing artificial musk, Alexander Stapler, Charlottenburg, Germany.
999,950.	Apparatus for use in administering anesthetics, Albert Berthelot and P. Rosenthal, Paris, France.
999,758.	Operating mechanism, Louis E. Dietz, Cincinnati, O.
1,000,332.	Pocket filter, Henry H. Dyer, Somerville, Mass.
1,000,001.	Vacuum apparatus for hyperemic treatments, Robert A. C. Holz, Cleveland, O.
1,000,335.	Thermo-electric fountain syringe, Norman E. Houser, St. Louis, Mo.
1,000,178.	Medical spoon, William F. Kahl, Detroit, Mich.
999,855.	Hospital appliance, Lincoln P. Parkhurst, Grand Rapids, Mich.
1,000,294.	Electromagnetic vibrator for local application to the person, Augustus Rosenberg, London, England.
1,000,298.	Preparation for slowly liberating oxygen, Leopold Sarason, Hirschgarten, near Berlin, Germany.
1,000,214.	Preparing extractive compounds of the suprarenal gland, Charles E. Vanderkleed, Collingswood, N. J.
1,000,138.	Obtaining bicarbonate of soda, Noah Wrinkle, and R. G. Paddock, San Francisco, Cal.
999,294.	Sterilizing apparatus, Gustav Bengs, Fort Wayne, Ind.
999,484.	Artificial arm and hand, William T. Carnes, Kansas City, Mo.
999,362.	Case for vials, etc., Everett B. Chapman, Marlboro, Mass.
999,551.	Manufacture of oxalic acid and other oxygenated carbon products, Auguste Deiss, Marseilles, France.
999,451.	Inhaling apparatus, Frederik A. Holleman, The Hague, Netherlands.
999,225.	Vibroscope, Charles F. Hopewell, Newton, Mass.
999,667.	Converting pinene into camphene, Louis Montaland, Villetaneuse, France.
999,289.	Medicinal cup, Morris Zuckerman, New York, N. Y.
999,003.	Obtaining nitrogen, Charles E. Acker, Ossining, N. Y.
999,083.	Soluble casein, Carl A. Baechler, Zurich, Switzerland.
999,084.	Soluble casein, Carl A. Baechler, Zurich, Switzerland.
999,010.	Ankle support and protector, Henry J. Collis, Taunton, Mass.
998,618.	Stereoscope plate changer, Edwin W. Kelly, Philadelphia, Pa.
998,850.	Automatic stereoscopic radiography, Edwin W. Kelly, Philadelphia, Pa.
998,977.	Water bag, James A. Murray, New Haven, Conn.
998,996.	Attachment for invalid beds, Josephine M. Swenson and T. S. Olsen, New York, N. Y.
999,078.	Cooler for soda fountains, Will B. Wood and B L. Warner, St. Louis, Mo.

The Journal of the
American Medical Association
Published under the Auspices of the Board of Trustees

VOL. LVII, NO. 20 CHICAGO, ILLINOIS NOVEMBER 11, 1911

VARIATIONS IN THE PHAGOCYTIC AND OTHER POWERS OF LEUKOCYTES *

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In the course of the recent study of phagocytosis, inaugurated by the discovery of opsonic substances in the blood and other fluids, it has been observed by various investigators that, contrary to the original belief of Wright and others, the phagocytic power or activity of the leukocytes is subject to considerable variation independently of variations in the opsonic content of the blood. It is the purpose of this article to review briefly the observations touching variations in the phagocytic and allied powers of leukocytes under different conditions, because it seems to me that the results at hand have a direct bearing on the larger problem of the anti-infectious powers of the blood as a whole.

The phagocytic power of leukocytes from a particular source may be compared with that of other leukocytes by finding the amount of phagocytosis performed by each under strictly comparable conditions. For such purpose the phagocytic mixtures, which would be the same in all respects save for the sources of the leukocytes, self-evidently must contain the same number of leukocytes. Hence standardized suspensions of leukocytes, that is, neutrophil leukocytes, the chief bacterial phagocytes, must be prepared. The number of polymorphonuclear cells in the same volume of each leukocytic suspension, made in the usual way, is determined by counting, and then the stronger suspensions are diluted with salt solution so that all acquire the same density. In other respects the procedure is quite the same as that used for determination of the opsonic content of serum. Of course, the samples of blood and of other fluids containing the leukocytes that are to be studied must be collected at the same time, and all the subsequent manipulations must be carried out under the same conditions in all respects.

This in brief is the general plan of the investigations of the subject in hand, made in this institute by Rosenow, Tunnicliff, Boughton and Eggers. In the case of at least some of the investigations made elsewhere, it is not always clear from the reports in the literature that due attention was given to this matter of having an equal number of phagocytes in the mixtures made for the comparison of the phagocytic power of leukocytes from different sources. This criticism probably applies to one of the earliest observations bearing on this question, namely, that by Ledingham and Bulloch[1] to the effect that the leukocytes of the leukocytosis produced in rabbits, by injection of sodium cinnamate, are less active phagocytically for staphylococci than the leukocytes of normal rabbits. It is quite evident—and Fleming[2] has shown it to be the case—that in mixtures containing an unequal number of leukocytes there will be less phagocytosis per phagocyte in the mixture containing the larger number of leukocytes, and vice versa. In other words, an apparent difference in phagocytic power may result from inequality in the number of leukocytes in the mixtures studied. Using numerically standardized leukocytic mixtures, Rosenow,[3] who also was one of the very first to make extensive studies of the question under discussion, obtained results indicating that in pneumonia the leukocytes have a greater inherent phagocytic power than in health, owing, he suggests, to the preponderance in the pneumonic leukocytosis of younger forms. Not only did he find that pneumonic leukocytes would take up more easily phagocytable pneumococci than normal leukocytes under the same conditions, that is, under the influence of the same serum, but also that the pneumonic leukocytes would take up pneumococci that would resist phagocytosis by the leukocytes of normal blood. Rosenow also observed that pneumonic leukocytes are more resistant to heat, and that after having been heated to the thermal death-point and then resuspended in serum, these leukocytes exercise greater attraction for pneumococci than normal leukocytes—a fact that points to a difference from the normal in the chemical or physicochemical constitution of the leukocytes in pneumonia. Rosenow notes, too, that the leukocytes of acute appendicitis and of puerperal infection also appear to be endowed with increased powers of phagocytosis.

Continuing the review of the articles concerning the question in hand in an approximately chronologic order, we find that Potter and Krumwiede's[4] results seem to indicate that during the height of the pneumonic attack the leukocytes are less active with respect to pneumococci than normal leukocytes, but during the crisis, and just afterward, the phagocytic power rises and then returns to normal.

Park and Biggs[5] found that leukocytes from different normal persons may vary in their phagocytic power for staphylococci.

Several studies have been made on the relative phagocytic power of the different kinds of polymorphonuclear leukocytes according to Arneth's classification, but with

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* From the Memorial Institute for Infectious Diseases.

[1] Ledingham and Bulloch: An Experimental Inquiry Into the Relationship of Leukocytes to the Opsonic Content of the Blood-Serum, Aberdeen Univ. Stud., 1906, No. 21, p. 321.

[2] Fleming: Some Observations on the Opsonic Index with Special Reference to the Accuracy of the Method, and to Some of the Sources of Error, Practitioner, London, 1908, lxxx, 607

[3] Rosenow: The Rôle of Phagocytosis in the Pneumococcocidal Action of Pneumonic Blood, Jour. Infect. Dis., 1906, iii, 683.

[4] Potter and Krumwiede: Some Observations on Opsonins in Pneumonia and in Four Streptococcus Infections, Jour. Infect. Dis., 1907, iv, 601; Further Observations on Opsonins in Normal and Pathologic Serums, THE JOURNAL A. M. A., Nov. 30, 1907, p. 1815.

[5] Park and Biggs: The Opsonic Index as a Guide to Regulate the Use of Vaccines in the Treatment of Disease, Jour. Med Research, 1907, xvii, 77.

rather divergent results. Kaplan[6] found that, so far as staphylococci are concerned, the cells with one nucleus are most active phagocytically and those with four, least active. On the other hand, Briscoe[7] and Pottenger[8] conclude that the leukocytes of Arneth's Classes II and III are the most active (staphylococci and tubercle bacilli), while Busse[9] assigns an equal phagocytic value to all classes of neutrophilic leukocytes in health as well as in conditions of inflammatory and postoperative leukocytosis. In so far as these observers used normal blood, it may be assumed that they used mixtures with the same relative number of different leukocytes.

Achard, Raymond and Foix[10] found the eosinophils in normal blood and in the blood of a case of myelogenous leukemia to be without phagocytic activity; the eosinophils in a pleural exudate were phagocytic, however, and in a case of infection with *Filaria loa* Rattan-Launier and Parvu[11] found them markedly active phagocytically.

Ledingham and Bulloch[1] found the polymorphonuclear leukocytes of subnormal activity in native serum in myelogenous leukemia; in chronic lymphatic leukemia, however, the phagocytic power was greater than normal. In a patient with splenomyelogenous leukemia Bushnel[12] found the polymorphonuclear leukocytes less active phagocytically for staphylococci and tubercle bacilli than normal. In myelogenous leukemia Parvu[13] observed that the polymorphonuclear cells were deficient in phagocytic power for typhoid bacilli and staphylococci; the large mononuclears, on the other hand, were active phagocytes. Kentzler[14] also holds that in myelogenous leukemia the neutrophils are below par in phagocytic power. In these cases, however, the question arises whether the actual comparisons made are based on the study of leukocytic suspensions of the same numerical strength. According to Achard, Raymond and Foix,[10] in the leukemias the leukocytes of the normal types have the usual properties but the abnormal cells almost wholly lack phagocytic power.

Shattock and Dudgeon[15] made the following observations: Washed pneumonic leukocytes accomplished more phagocytosis in pneumonic serum than normal leukocytes, while in puerperal streptococcus infection the leukocytes of the puerpera were less active as phagocytes than normal leukocytes in the same serum. As phagocytable objects they used melanin granules from the eye of the horse and colon bacilli. They conclude that the leukocytes from cases of infectious diseases may be more or less active phagocytically than normal leukocytes and recommend for determination of the total phagocytic power of the blood in a given case—hemophagocytic index—a modification of Leishman's technic, but they do not emphasize sufficiently the requirement of working with suspensions holding the same number of leukocytes.

Bayly[16] observed reduction in the phagocytic power of the leukocytes *in conditions of fatigue in tuberculosis.* Eggers,[17] who tested the activity of the leukocytes in pulmonary tuberculosis with respect to tubercle bacilli, pneumococci, streptococci and staphylococci, failed to find any striking deviations from the normal; in advanced cases the activity seemed somewhat less than in the early cases.

Glynn and Cox[18] made extensive comparative studies of the inherent phagocytic powers, with respect to tubercle bacilli and staphylococci, of the leukocytes of three normal persons, of one case of mild staphylococcus infection and of several miscellaneous cases. Their results show that there may be variations in the phagocytic power on the part of leukocytes from different persons and from the same person at different times. In conditions of health such variation is probably nonspecific. Glynn and Cox use the term "cytophagic index" to indicate the relative phagocytic power of leukocytes from a given source, as compared with that of leukocytes from a different source used as the standard, the two mixtures being made with the same opsonic serum; and the term "opsono-cytophagic index" has been introduced to indicate the relative phagocytic powers of the leukocytes and serum of one individual, as compared with the phagocytic powers of the leukocytes and serum of another individual used as the standard. Naturally this index, called by Shattock and Dudgeon the hemophagocytic and by Nikolsky[19] the opsono-phagocytic index, yields information of larger significance than the opsonic index which tells us only the relative amount of opsonic substances in the blood and is determined by finding the amount of phagocytosis accomplished by normal, or presumptively normal, leukocytes under the influence of the serum in question.

The article by Glynn and Cox gives a mass of interesting and valuable technical details. They recognize fully the necessity of conducting determinations of the cytophagic and opsono-cytophagic indexes with numerically equalized suspensions of leukocytes which they, however, attempted to secure by counts of the red corpuscles in the mixtures of washed blood rather than by the more direct, and surely more accurate, method of counting the leukocytes themselves.

In various infectious diseases Achard and his associates[20] find the phagocytic activity of the leukocytes with respect to yeast-cells below normal in the early part of the attack, rising later to normal or higher in case of recovery, but not otherwise. As the investigators made no effort to equalize the number of leukocytes in the mixtures prepared, it is difficult to form any opinion as to the value of their results.

In a case of cystitis caused by pseudodiphtheria bacillus, Rosenow[21] found that subcutaneous injections of the specific vaccine caused a moderate degree of leukocytosis and a definite and specific increase of the phagocytic power of the leukocytes in the mixtures containing their own, that is, the patients' serum.

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[6] Kaplan: Diagnostic and Prognostic Value of Enumeration of the Nuclei of the Neutrophilic Leukocytes and Their Relative Phagocytic Power, New York Med. Jour., 1907, lxxxv, 683.

[7] Briscoe: Phagocytic Power of Different Forms of Polymorphonuclear Leukocytes and the Origin of Opsonin, Brit. Med. Jour., 1907, ii, 1423.

[8] Pottenger: Phagocytosis in Relation to Arneth's Classification of Neutrophils, THE JOURNAL A. M. A., June 19, 1909, p. 1980.

[9] Busse: Phagozytose und Arneth's Blutbild, München. med. Wchnschr., 1910, lvii, 70.

[10] Achard, Raymond and Foix: Compt. rend. Soc. de biol., 1909, lxvi, 56.

[11] Rattan-Launier and Parvu: Recherches sur le pouvoir phagocytaise des polynucleaires éosinophiles, Compt. rend. Soc. de biol., 1909, lxvi, 514.

[12] Bushnel: Brit. Med. Jour., 1907, ii, 1422.

[13] Parvu: Pouvoir phagocytaire des globules blancs et indice opsonique dans la leucémie myélogène, Compt. rend. Soc. de biol., 1908, lxv, 480.

[14] Kentzler: [illegible] Phagozytose und Opsonin, Ztschr. f. klin. Me[illegible]

[15] Shattock an[illegible] on Phagocytosis Is Carried Out by Me[illegible] [illegible]tain More Particularly Whether the Opsonic Index is Identical with the Hemophagocytic Index, Proc. Roy. Soc., B, 1908, lxxx, 165.

[16] Bayly: The Cell as a Factor in Phagocytosis, Lancet, London, 1908, i, 1073.

[17] Eggers: Unpublished observations.

[18] Glynn and Cox: Variations in the Inherent Phagocytic Power of Leukocytes, Jour. Path. and Bacteriol., 1909, xiv, 90.

[19] Nikolsky: Zur Frage der Bestimmung des Opsonischen Index, [illegible], Orig., 1910, liii, 544. This author also [illegible] phagocytic activity of the leukocytes but he did not use suspensions in which he had determined that the numbe[illegible] same.

[20] [illegible] 031 et seq.

[21] [illegible] Observations on Ulcerative Cystitis Cause[illegible] Bacillus, Jour. Infect. Dis., 1909, vi, 296.

In certain cases of recurring and chronic erysipelas, Boughton[22] observed peculiar relations between the serum and the leukocytes. In one case in particular, of relapsing and recurrent erysipelas of long standing, which he studied with special care, the opsonic index for the infecting streptococcus was usually much lower when determined with the patient's leukocytes than when determined with the leukocytes of a normal person. There existed some peculiar relation between the leukocytes and the serum of the blood of the patient which reduced the amount of phagocytosis. This result is shown clearly in the following experiment which, like his other experiments of similar nature, was made with leukocytic suspensions of equal density:

Patient's serum + normal leukocytes = 5.5 streptococci per leukocyte. Normal serum + normal leukocytes = 3.13 streptococci per leukocyte. Opsonic index of patient's serum *1.76*.

Patient's serum + patient's leukocytes = 0.76 streptococci per leukocyte. Normal serum + patient's leukocytes = 3.56 streptococci per leukocyte. Index (opsono-cytophagic) of patient's blood *0.21*.

As the phagocytic power of the patient's leukocytes was subnormal in native serum but at par in normal serum, it is evident that the reason of the low phagocytic action of the patient's blood resided in the patient's serum, even though this serum gave a high opsonic index. From the experiments that Boughton made to analyze the mechanism of action of the patient's serum in this case, one cannot determine whether the depressing effect of the serum on the corresponding leukocytes was caused by the absence of some necessary element or by the presence of some inhibitive substance. Boughton found that the addition of a minute quantity of normal serum to mixtures of the leukocytes and serum of the patient's blood promptly raised the phagocytic activity of the leukocytes to normal. Furthermore, the leukocytes of the patient, on being treated with normal serum and then washed with salt solution, would retain normal phagocytic power in the presence of the patient's serum. Hence it does look as if the normal serum did supply some lacking element, and yet there may have been present in the patient's serum an inhibitory substance or quality which normal leukocytes could overcome, but against which the patient's leukocytes were powerless unless in the presence of normal serum or after being treated therewith. That the restorative effect of normal serum was not due to the thermolabile opsonic element is shown by the fact that this patient's serum after being heated was not reactivated by the addition of a small amount of fresh serum. Here, then, is a striking example of reduction of phagocytic power of the leukocytes by obscure changes of a specific character in the homologous serum. It would be strange if conditions like the one described by Boughton do not have a direct bearing on the continuation and progress of the infection. In this particular case the injections of fresh horse serum seemed to have a detrimental effect. Injections of fresh human serum were not given, and it would seem desirable to study the effect of such injections in similar cases.

Rosenow[23] has made extensive studies of the antipneumococcus powers of the blood in several cases of chronic pneumococcus endocarditis. In such cases he finds that there may be considerable variation in the phagocytic power of the leukocytes. At times when there is leukocytosis the phagocytic activity may be greater than normal; more often it is subnormal, especially if the test is carried out with the serum of the same patient as the leukocytes, and occasionally this reduction is limited specifically to the pneumococcal strain causing the infection. In all the experiments bearing on this point as well as on the comparative pneumococcocidal action of the leukocytes, Rosenow used leukocytic suspensions of the same numerical strength, at least as far as the neutrophils are concerned.

Human blood has pneumococcocidal powers. This is easily demonstrable by means of the usual plate method under proper conditions.[24] The pneumococcocidal effect is the result of the conjoint action of the fluid part of the blood and of the leukocytes—by itself either constituent is quite harmless. The first step in this action is opsonification and phagocytosis of the pneumococci; the final step is destruction of the ingested cocci associated with disintegration of the phagocytic leukocytes. Now Rosenow studied particularly the variations in the destructive powers of the leukocytes with respect to pneumococci in cases of chronic pneumococcus endocarditis, and the following in brief are the principal results: While phagocytosis and intraleukocytic destruction of the pneumococci isolated from cases of chronic endocarditis, so to speak, may run hand in hand in mixtures of suspensions of normal leukocytes or of the patient's leukocytes with *normal serum*, this is not always the case in like mixtures with the *patient's serum*. Lowered phagocytic power seems nearly always associated with lowered destructive power, but at times when the phagocytic action of the patient's leukocytes is normal, or greater than normal, there may occur an apparently complete failure of destruction of the pneumococci taken up by the leukocytes in native serum. That is to say, the patient's leukocytes may take up pneumococci readily in native or normal serum, but exercise destructive power only in normal serum. More rarely, this is true of normal leukocytes as well. As illustration I give the results of one experiment:

PATIENT'S LEUKOCYTES

Mixtures	Phagocytosis—figures give average number of pneumococci per leukocyte after 15 min.	Pneumococcocidal action as determined by number colonies on blood agar plates inoculated with equal amounts	
		Immediately	After 24 hours
Normal leukocytes + normal serum..	1.6	30	14
Normal leukocytes + patient's serum.	1.1	35	2500
Patient's leukocytes + normal serum..	1.2	28	15
Patient's leukocytes + patient's serum.	1.4	22	1550

The addition of a small amount of normal serum to the patient's serum restored the phagocytic and destrucive powers of the mixtures with this serum; even the mere washing of the leukocytes in normal serum may accomplish this result, showing conclusively that the serum exercises a definite influence on the activities of the leukocytes which is quite independent of its opsonic influence.

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[22] Boughton: Interaction of Serum, [illegible] ria in Phagocytosis, Jour. Infect. Dis., 1910, [illegible] of Phagocytosis in Some Cases of Erysipelas [illegible] oc., 1910, viii, 24.

[23] Rosenow: Immunologic and Experimental Studies on Pneumococcus and Staphylococcus Endocarditis, Jour. Infect. Dis., 1909, vi, 245; Immunologic Studies in Chronic Pneumococcus Endocarditis, Ibid., 1910, vii, 429.

[24] Rosenow: Jour. Infect. Dis., 1910, vii, 440.

The failure of intraleukocytic disintegration to take place in the patient's serum seems to be specific for the infecting pneumococcus, at least in some cases. In attempting to analyze this phenomenon, Rosenow made some experiments in which he used endocarditis pneumococci that had been "sensitized," i. e., previously treated with serum at 37 C. for ninety minutes and then washed. In this case normal leukocytes destroyed the pneumococci sensitized in the patient's serum just as well as those sensitized in normal serum, hence their occasional lack of destructive action in the full presence of the patient's serum must be due to the effect of that serum on the leukocytes. With respect to the patient's leukocytes, it was found that at times they failed to destroy cocci whether sensitized in normal serum or in the patient's serum—hence were lacking in some quality possessed by normal leukocytes—whereas at other times they would destroy only those pneumococci that had been treated with normal serum. These facts point to the existence in normal serum of a substance or quality which promotes the intraleukocytic disintegration of pneumococci. In cases of chronic pneumococcus endocarditis, lowering of the destructive power of leukocytes may be due to a deficiency of this substance or to the presence of a neutralizing substance. In Rosenow's cases, the occurrence of joint involvement and other complications was preceded by a fall in the phagocytic and destructive powers of the blood toward endocarditis pneumococci and succeeded by a rise. These observations also help us to understand that specific inoculations, even though they may increase temporarily the amount of opsonin in the blood, nevertheless may be without any good effect in cases in which leukocytes have lost the power to destroy pneumococci. In such cases, injections of fresh homologous serum would seem indicated.

In a study of the anti-infectious power of infants' blood, Tunnicliff[25] finds that at birth the phagocytic activity of the leukocytes is a little below that of the leukocytes of normal adults so far as streptococci, pneumococci and staphylococci are concerned. During the first months of life the activity falls, but soon a rise begins and the adult standard seems to be reached at about the third year. The opsonic power of the serum describes a similar curve. The low phagocytic power of the leukocytes in infancy as compared with later years would seem to be inherent in the leukocytes because it is demonstrable in phagocytic mixtures prepared with the serum of adults as well as with the serum of infants. Tunnicliff's work indicates, then, that during the first and second years of life the anti-infectious powers of the blood for the bacteria mentioned as measured by the opsonic power of the serum and the phagocytic power of the leukocytes is far below that of adult blood.

Tunnicliff[26] has determined also that the leukocytes in exudates, induced by injections of aleuronat (gluten-casein) suspension in guinea-pigs and dogs, are more active phagocytically than the leukocytes in the blood of the identical animals. To be more specific, in comparable mixtures, using suspensions holding the same number of carefully washed polymorphonuclear leukocytes, the leukocytes of the exudate not only take up a larger number of bacteria (pneumococci, streptococci, tubercle bacilli), but a larger number of leukocytes engage in phagocytosis than in the case of the leukocytes obtained from the blood. Tunnicliff[27] furthermore has shown that, as a rule, there is an increase in the phagocytic power of the leukocytes (cytophagic index) in favorable cases of pneumonia, both before and after crisis. In severe cases the phagocytic power usually is diminished, but rises above normal as improvement sets in. This variation in the phagocytic power of the leukocytes is not specific for pneumococci but is demonstrable also with streptococci and staphylococci. And pneumococcocidal experiments by means of the plate method showed the variation in the phagocytic power to be associated with corresponding and parallel variation in the destructive power. Similar non-specific variations with respect to the leukocytes were observed in severe cases of scarlet fever. In a patient with chronic articular rheumatism there resulted an increase not only in specific opsonin but also in the phagocytic power of the leukocytes after injections of killed streptococci, obtained originally from the patient's tonsil, and this increase in the total phagocytic power of the blood was associated with an increase in the streptococcocidal power of the blood, using normal blood as the standard.

SUMMARY

In determination of the comparative phagocytic power of leukocytes, suspensions prepared under like conditions and holding the same number of leukocytes must be used. Results obtained without these conditions being satisfied are of doubtful value.

It seems that the inherent phagocytic power of the leukocytes of the blood may be subject to some variation, with respect to certain bacteria at least, even in persons in apparently perfect health. Further study on a more extended scale is needed. In the meantime, the idea that the source of the leukocytes for estimation of the opsonic index is wholly immaterial cannot be sustained.

At birth, the leukocytes are somewhat less active phagocytically than in the adult; they grow less and less active during first months of life and then more active, the adult standard for streptococci, pneumococci and staphylococci being reached about the third year (Tunnicliff). On this account, as well as for other reasons, the opsonic index in infants should be determined with leukocytes and serum of infants of the same age as the standard.

There is no conclusive evidence that the different kinds of neutrophils (according to Arneth's classification) differ in phagocytic activity.

There are indications that in myelogenous leukemia the neutrophil leukocytes are below normal in phagocytic power, but further comprehensive studies are necessary in order to obtain conclusive results.

The phagocytic power of leukocytes has been found to be greater than normal, with respect to pneumococci, streptococci and staphylococci, in pneumonia, scarlet fever and other conditions in which there is acute leukocytosis and the outlook is favorable. In pneumonia the leukocytes may be more resistant to heat than normally, they may have greater attraction for pneumococci, and they may take up pneumococci too virulent to be taken up by normal leukocytes (Rosenow).

In pneumonia and in scarlet fever, the destructive powers of the leukocytes for pneumococci and streptococci run parallel with the phagocytic power. In severe cases of pneumonia and scarlet fever, the phagocytic and destructive powers of the leukocytes may be lower than normal.

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[25] Tunnicliff: Observations on the Anti-Infectious Power of the Blood of Infants, Jour. Infect. Dis., 1910, vii, 698.

[26] Tunnicliff: Observations on the Phagocytic Activity of the Leukocytes in Exudates, Tr. Chicago Path. Soc., 1911, viii, 208.

[27] Tunnicliff: On Variations in the Phagocytic and Coccidal Power of the Blood in Pneumonia and Scarlet Fever, Jour. Infect. Dis., 1911, viii, 302.

In recent exudates the leukocytes are more active as phagocytes for streptococci, pneumococci, and tubercle bacilli than the leukocytes of the corresponding blood.

The exact causes of the increase in the activity of the leukocytes are not known; it has been suggested that in pneumonia and other acute diseases, in which there is leukocytosis, the increase in activity is owing to the predominance of young leukocytes.

In certain chronic infections, notably chronic pneumococcus endocarditis and chronic erysipelas, the phagocytic activity of the leukocytes may be either above or below normal; at times there may occur a distinct fall in their phagocytic power, which may be specifically limited to the infecting microorganism or observable only in the native serum or both. While the reasons for this fall are yet obscure, it appears to be related closely to changes in the fluid part of the blood because small quantities of normal serum may correct the condition, and so may the mere soaking of the leukocytes in normal serum. What is said of the phagocytic activity appears to apply fully to the processes that lead to intraleukocytic disintegration of the pneumococci in chronic pneumococcus endocarditis. Hence it may be concluded that the fluid of the blood, independently of its opsonic function, directly influences the phagocytosis and intraleukocytic destruction of certain bacteria.

We may say, then, that in acute as well as some chronic infections with pneumococci and streptococci, and possibly also with other bacteria, a real grasp of the specific anti-infectious powers of the blood of the patient is obtainable only by the determination of the combined phagocytic powers of the leukocytes and serum of that blood and of their combined destructive action. In chronic infections, this determination should be made with reference to the infecting strain. Here, especially, the opsonic index alone may be misleading as it may be normal or above normal, and yet the leukocytes of the patient may have less phagocytic power, and, associated therewith or independently thereof, less destructive power than normally.

So far, specific variation in the leukocytic activities with respect to the infecting strain have been observed in infections of long standing only. Such seemingly very special adaptations naturally require time for their development. Further studies along these lines are indicated because the results may lead to a still better understanding of such infections and their treatment.

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ADIPOSITY OF THE MAMMARY GLANDS *

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There are no more interesting and few more mysterious questions in the field of physiologic research than those concerned with the problem of fat metabolism. As a pathologic process, an abnormal fatty condition has been discovered in various organs; one of us (Guthrie) reported a case of necrosis (with fatty change) of the kidney, in the Section on Surgery of this Association at its New Orleans meeting. Reported cases of abnormal adipose conditions of the mammary glands are rare.

Cases of unusual non-neoplastic enlargement of the mammary glands have been reported from time to time as examples of diffuse idiopathic hypertrophy of these structures. One of us (Albert[1]), in reporting a case of this kind a year ago, also reviewed the descriptions of the sixty-nine other cases which had been previously reported. Clinically, cases of idiopathic hypertrophy may be divided into (1), those associated with gestation and (2), those not associated with gestation, most of which are closely related to puberty. Pathologically, the hypertrophied glands are found to consist essentially of a hyperplasia of both the glandular and connective tissue-elements—the hyperplasia of the former predominating in idiopathic gestation hypertrophy, whereas the enlargement of the idiopathic puberty hypertrophy consists principally of fibrous connective tissue.

In the description of the sixty-nine cases referred to,[1] mention is made in only three of the presence of an excess of adipose tissue. Robert and Ammesat,[2] in describing a case of enormous hypertrophy of the mammary glands, stated that microscopic examination indicated an increase especially of adipose tissue.

J. C. Warren,[3] in referring to a case of idiopathic puberty hypertrophy, states that "microscopic examination showed the presence of fat, loose fibrous tissue and atrophied gland-structures."

Beatson,[4] under the title "Hypertrophy of the Female Mamma," refers to the pathology as follows:

> After removal both mammæ presented on section much the same appearance. They were seen to be largely composed of fatty tissue, as if the cause of their excessive size was due to an abnormal growth of fat (lipomatosis). Microscopic examination, however, of the breast-tissue did not support this view. Sections of it showed the glandular elements of a normal breast in a resting condition, but the number of acini seemed to be fewer than normal, while the intra-acinous fibrous tissue was in excess and very dense in character, though scattered through it were spaces filled with a considerable amount of fat. From the appearances observed, it seems very probable that the fat and fibrous tissue went to make up a large part of these hypertrophied mammæ.

The photomicrographic reproduction which accompanied the article suggests that it consists principally of fat.

The case which we are reporting is one in which the enlargement of the mammary glands is due almost entirely to adipose tissue.

REPORT OF CASE

History (Taken May 17, 1910).—The patient, a woman, aged 24, was born in Iowa of German parentage. She is 5 feet 2 inches tall and weighs 164 pounds; is rather stoutly built and fleshy, but not fat. Father's age is 49 and mother's age 45; both are living and well. She has five brothers and four sisters, all living and well. In none of the other members of the family has there ever been any undue enlargement of the mammary glands. In fact, all the sisters, one of whom is more fleshy than the patient, have very small "flat" breasts. Patient began to menstruate at the age of 11. At this time occurred the usual slight enlargement of the breasts. The menstrual periods have always been more or less irregular, being often absent for a period of three or four months.

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* Read in the Section on Obstetrics and Gynecology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

1. Albert, Henry: Diffuse Idiopathic Hypertrophy of the Mammary Glands of the Female, THE JOURNAL A. M. A., Oct. 15, 1910, p. 1339.
2. Robert and Ammesat: L'Union méd., 1851, p. 219.
3. Warren, J. C.: The Surgeon and the Pathologist. A Plea for Reciprocity as Illustrated by the Consideration of the Classification of the Treatment of Benign Tumors of the Breast, THE JOURNAL A. M. A., July 15, 1905, p. 149.
4. Hypertrophy of the Female Mammæ, Edinburgh Med. Jour, 1908, New Series, p. 525.

Present Illness.—When patient was 16 years of age she was sick for three weeks with a severe attack of mumps and what was diagnosed as malaria. Near the beginning of this period of illness she suddenly developed, one night, a severe dull aching pain in both breasts, accompanied by some swelling but no redness. Local applications and bandages were applied, but had no effect on the process. During the following six years the glands gradually grew in size until, at the age of 22, they were about the size of a cocoanut and only slightly painful. At that age she was married (March 21, 1908). From the time of marriage to the time of beginning of pregnancy (about five months) the breasts continued to remain about the same as they had been for some time previous to marriage. After the beginning of pregnancy, the mammæ began to enlarge rapidly, but were for some time no more painful than usual. At the end of the fourth month of pregnancy, they became very painful and remained so during the pregnant state. During the sixth month patient had severe edema of the feet and eyelids and was confined to her bed for several weeks. During this time there was an occasional slight hemorrhage from the uterus. At the end of the seventh month of gestation, the physician found it necessary to produce an abortion to save the life of the patient. The child which was delivered is now 14 months old, weight 22 pounds and appears perfectly well. A small amount of milk appeared from the nipples during the first two days after the delivery of the child. The child could not be suckled, however, because of a flattening out of the nipples due to the excessive growth of the glands. Patient made a good recovery from the illness which produced the edema of the feet and eyelids. After the termination of pregnancy the glands became more soft and the pain less intense, although they remained of about the same size as they were during the last few months of gestation, which is practically the same as they are at the present time. During the past three months the breasts have become especially painful, the pain being most severe in the outer, upper quadrant of the glands. The last and only pregnancy was terminated about fourteen months ago. Since that time the menses have appeared quite regularly. Patient was admitted to the University Hospital May 16, 1910. (Hospital No. 9839.)

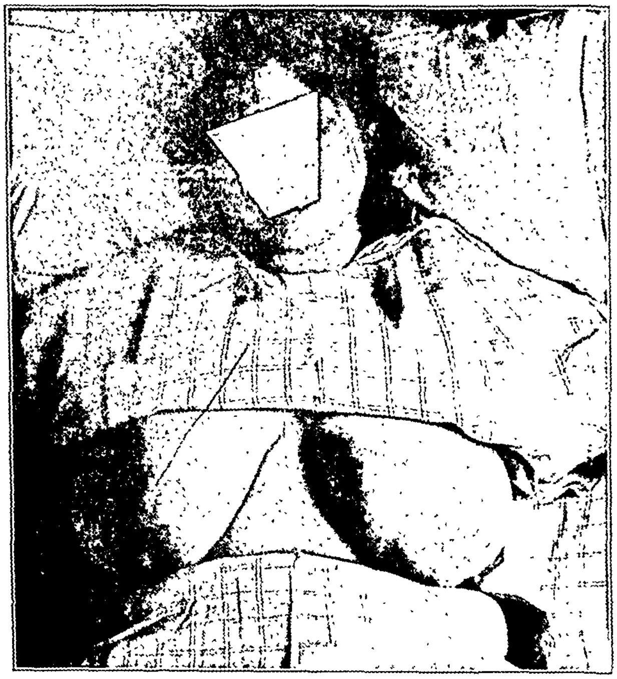

Fig. 1.—Patient with adiposity of mammary glands. From a photograph.

Physical Examination of Breasts.—Both glands were rather uniformly enlarged, more or less spherical in shape and hung down so that the most dependent portion of each was on a level with the umbilicus. The right gland (gland-substance) measured 7½ inches from base to nipple; the left, one-half inch less. On the other hand, the left exceeded the right in circumference (greatest), that of the former being 18 inches and of the latter 17½ inches. The nipples appeared as very slight elevations (about one-twelfth inch) on the lower and anterior surface of the glands. The areolæ, which were each about 2¾ inches in diameter, were well pigmented and quite sharply outlined. The skin covering the glands was smooth and quite uniformly stretched over the underlying tissue. The breasts were rather soft in consistency. The presence of quite firm nodules suggested the presence of localized areas of glandular tissue embedded in a mass of adipose tissue. The upper, outer quadrant of the right gland was of a more uniformly firm consistency than any other portion. On account of the severe and continually increasing pain experienced by the patient during the preceding three months, it was decided to amputate the breasts, which was accordingly done by one of us (Guthrie), May 17, 1910.

Operation.—The patient was prepared in the usual manner and a complete amputation of both breasts performed. The glands appeared, from ocular examination, to consist entirely of fat, and hence the pectoral muscles were left undisturbed. The wound was closed with silkworm sutures and a gauze drain placed in the lower angle of each wound.

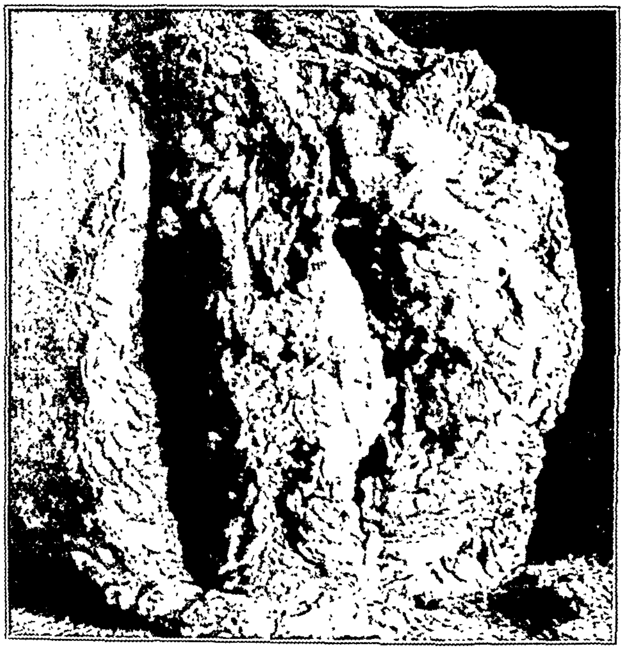

Fig. 2.—Base of left gland, incised, showing lobules of adipose tissue, between which are thin strands of connective tissue.

Postoperative History.—The patient followed a normal course for three days when there developed a mild temperature, the result of a slight infection of the right wound with a rather profuse purulent discharge. The wound was opened, drainage continued a few days, and a reasonably rapid convalescence followed. The patient had no distinct chill at any time.. The discharge was like that frequently seen in very fat abdominal walls with mild infections. Otherwise she made an uneventful recovery and left the University Hospital June 24, 1910. On Feb. 7, 1911, she wrote that she was perfectly well; that she had gained 30 pounds since leaving the hospital, her weight at that time being 150 pounds, and that she could then perform the work of caring for her home. On April 20, 1911, she reported that her weight had increased to 160 pounds, i. e., within 4 pounds of her weight prior to the operation. Monthly periods were regular and free from pain. Her recovery from pain and the incapacitating weight of the gland was complete and she is able to resume entirely her usual work.

Gross Pathology.—The amputated glands together weighed 10¼ pounds, the right 5½ pounds and the left 4¾ pounds. The shape, dimensions and surface contour of the glands changed considerably after they were removed from the body.

The substance of the glands was found to consist of adipose tissue, with the exception of a few strands of connective tissue running here and there between lobule-like areas of the fatty structure.

Pathologic Histology.—A section cut from almost any part of the gland presented the microscopic appearance of ordinary adipose tissue. This was continuous with what appeared to be the subcutaneous fat. The connective tissue was of the normal, fully developed fibrous type. The larger strands of connective tissue were found to contain a few small gland acini lined by a single layer of cuboidal epithelial cells and representing, apparently, the gland elements in a resting stage.

DIFFERENTIAL DIAGNOSIS

The condition which we have described and which we have chosen to designate as "adiposity of the mammary glands," needs to be differentiated from the following processes:

1. An excessive size of the mammary glands as a part of *general obesity.* In such conditions, the breasts, although containing a large amount of fat, still have their real glandular portion quite well circumscribed and relatively free from fat. In the case which we describe, there was no portion which, to the naked eye, contained any evidence of glandular elements. Furthermore, the patient in question, although rather fleshy, had apparently but little more subcutaneous adipose tissue than the average person. Then, too, her glands increased in size and tenderness at a time when there was no increase in her general body weight.

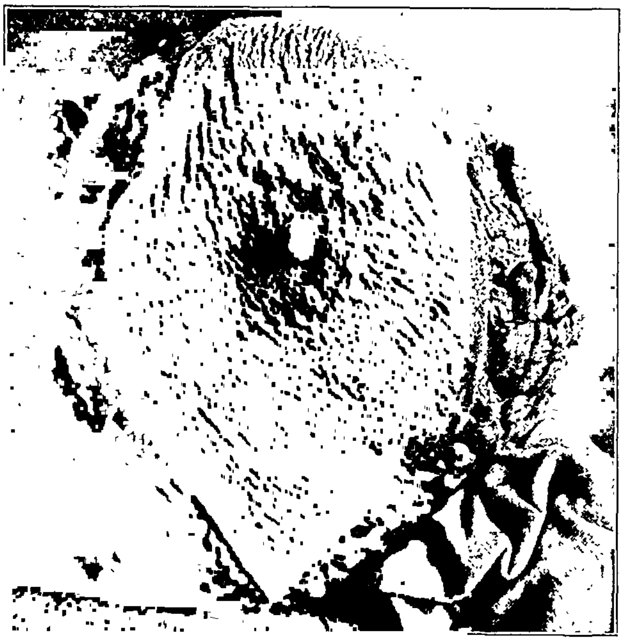

Fig. 3.—Left gland showing lobules of adipose tissue beyond the edges of the skin which has been contracted and wrinkled by the formaldehyd preserving fluid.

2. *Idiopathic hypertrophy,* consisting of a hyperplasia of the connective tissue or the glandular elements. Before the glands were amputated, we believed that we were dealing with a case of this kind. We do not believe that it is possible to differentiate between the two conditions until an incision into the gland and a recognition of its structure is made.

3. *Diffuse lipoma.* A tumor, although often quite diffuse, is more or less circumscribed, tending to push the real glandular structure to one side. In our case there was no suggestion of circumscription and the gland acini were quite uniformly distributed—embedded in the slight amount of connective tissue throughout the gland.

PROGNOSIS

In each of the three cases already cited from the literature of idiopathic hypertrophy of the mammary glands, which we regard as probably cases of adiposity, the glands were amputated and amputation was followed by recovery, as in our case. We have therefore no data as to the prognosis in case amputation is not made.

CONCLUSIONS

1. The condition which we have described, representing an unusual enlargement of the mammary glands and consisting almost entirely of adipose tissue, we have chosen to designate by the term "adiposity of the mammary glands."

2. Of the seventy cases of diffuse idiopathic hypertrophy of the mammæ of which we have found a record in the literature, in one mention is made of the fact that the enlargement was due principally to adipose tissue; in two others attention was called to the large amount of adipose tissue present. We believe that the one, certainly, and the other two, probably, were cases of adiposity of the breasts.

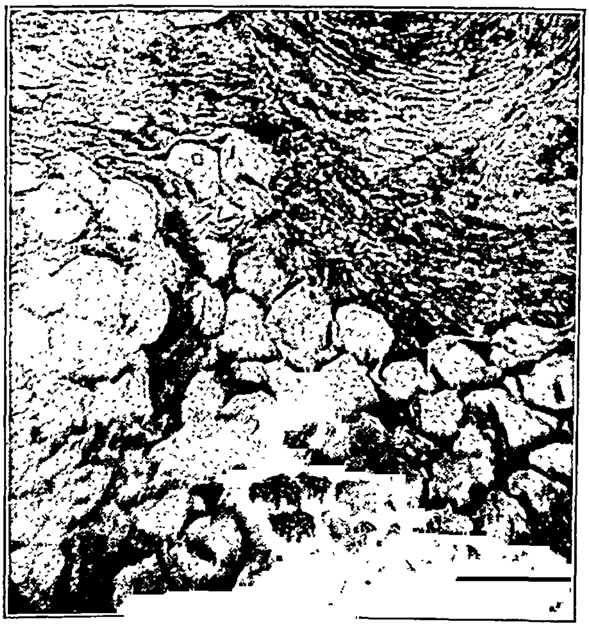

Fig. 4.—Section from piece of left gland showing adipose tissue adjacent to one of the larger strands of connective tissue, in which were found a number of gland acini presenting practically the normal size, shape, structure and arrangement. The mamma consisted almost entirely of adipose tissue of normal appearance.

3. We believe that it is advisable to make more general use of the term "macromastia" to denote enlargement of the breasts due to any cause, and to differentiate between the terms "hypertrophy" and "adiposity," according to whether the enlargement is due to glandular (and possibly also connective) tissue on the one hand, or adipose tissue on the other.

Municipal Health.—No community is so poor that it can afford to permit typhoid for the lack of a filter, or inefficient children for the lack of good schools, or criminals for the lack of playgrounds, or wayward girls for the lack of protection, or exploited childhood for the lack of a factory inspector, or industrial accidents for lack of a compensation law or an insurance system.—Devine in "Misery and Its Causes."

THE TREATMENT OF CERTAIN OBSTRUCTIVE BENDS OF THE INTESTINES DUE TO ABNORMAL MESENTERIC ATTACHMENTS AND INADEQUATE PARIETAL SUPPORT *

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There are four important portions of the intestinal tract that suffer notable distortion and lead to pathologic results due to an anomalous condition of the mesenteric attachments and inadequate support of the abdominal parietes, viz., the duodenum, the terminal portion of the ileum, the appendix vermiformis and the sigmoid.

The distortion usually occurs as a result of the two principal causes named, but may occur in a less aggravated form with only one of the two causes acting. In a recent paper I dwelt on these causes as they especially affected the terminal portion of the ileum, and the facts given there as an explanation of the distortion occurring at that portion of the intestinal tract apply in principle to the other regions enumerated. In this paper I wish to note briefly a line of postoperative treatment which I consider rational and which has been successfully pursued in a number of the terminal ileum variety of distortions commonly known as the "Lane kink" (Fig. 1).

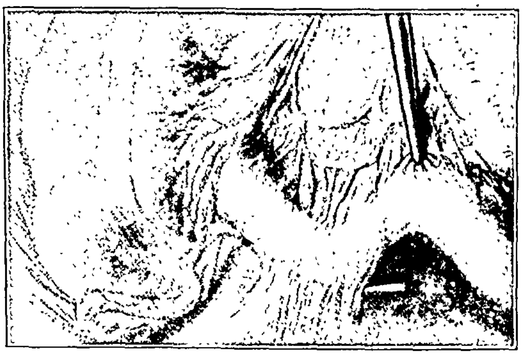

Fig. 1.—A kink with adhesions. Not a marked type. Picture borrowed from C. H. Mayo.

The Lane kink is a term applied to a pathologic bend of the terminal six inches of the ileum. It is manifested by an acute angle of that portion of the bowel complicated by a thickening of its mesentery and the adhesion of the two arms of the angle together, to surrounding intestinal coils, and to its own mesentery in which it is frequently rolled, the whole condition eventuating in more or less intestinal stasis.

I have concluded that the kinking of the ileum within 4 inches of its cecum attachment instead of elsewhere is due to the fact that the ileum at its termination in the large bowel possesses an extremely short mesentery, viz., from 1 to 2 inches. Given this comparatively fixed portion of the compressible tube, there are two factors which lead to its distortion, (a) a too movable or displaced large bowel, and (b) an abnormal disposition of the remaining portion of the small bowel or other viscera.

Adhesions occur from (1) extension of infection from infected appendix in both male and female, and the uterine appendages in the female; (2) from friction of the opposed serous membranes from violent mechanical action resulting from the factors causing the distortion; (3) rarely from direct migration of bacteria through the violated tissues of the intestines.

The different conditions I have observed accompanying pathologic kinks of the last 6 inches of the ileum are as follows:

A. Extreme prolapse of cecum and ascending colon.

B. Extreme prolapse of the stomach with transverse colon prolapsed beneath the stomach, the small intestines filling the pelvis and lower abdomen underneath the stomach and colon, resulting in a definite right angle kink of the ileum near its attachment to the cecum.

C. A condition in which both cecum and small intestines are prolapsed, and in which a tendency to general visceral prolapse is present, resulting in a variety of kinks in the last 6 inches of the ileum, owing to pull on its short mesentery, the shape and direction of the bend depending on the particular influence exerted on it by the abnormal position of the viscera surrounding it.

D. The kinks or bends are in my opinion due, therefore, to a decided displaceability, not only of the cecum, but of all the viscera surrounding the last three inches of the ileum, traumatizing it by undue pulling on its distal end in the case of the cecum, on its proximal end in the case of the balance of the ileum, or by pressing on it and its attached mesentery, and grinding their opposing surfaces together in case of marked displacement of the superimposed viscera, such as the right kidney, the liver or stomach.

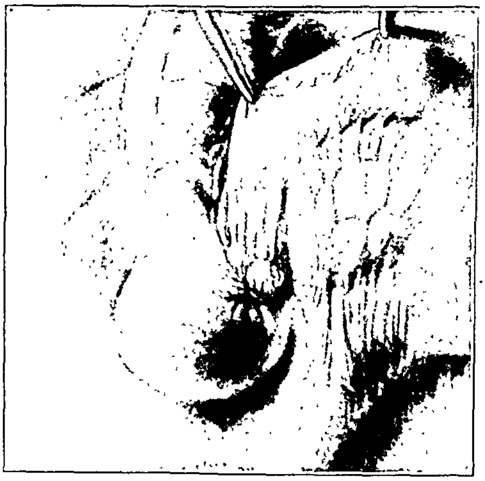

Fig. 2.—Same as Figure 1, with kink obliterated. (From C. H. Mayo.)

The causes leading to a tendency to general visceral ptosis, which is such a strong factor in the production of this obstructive bend, are naturally two in number, viz., congenital and acquired.

The congenital defects are found (a) in the failure of early blending of the peritoneal layer with the parietes which results in the normal individual with an adequate fixation of the stomach, the liver, the spleen, the pancreas, the duodenum, the ascending and descending colon; (b) in a failure of normal development of the muscular parietes of the abdomen and the strong supporting fascia which aid in retaining the viscera at their normal levels in the perpendicular human being.

The acquired defects are brought about by acute or chronic diseases which leave the individual without normal abdominal muscle support, and diseases which deprive the individual of normal fat deposits in the parietes and about the viscera in the abdominal zone.

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* Read in the Section on Obstetrics and Gynecology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

As the same treatment applies, with a few obvious variations, to the pathologic bends in the other portions of the intestinal tract after operative correction, and to the general management of abdominal prolapse, I shall describe the treatment as I have carried it out in the management of the Lane kink. I shall not enter into a detailed discussion of the methods of treating this condition, as described and carried out by Mr. Lane, more than to say that I can hardly conceive of a case in which short-circuiting with the lower bowel or the more radical operation of removing the colon, as advocated and carried out by him, can offer a more certain cure (and certainly it is attended with greater risk) than can be obtained by the less radical procedure that I am to describe (Fig. 2).

Very often in the past, the kink at the terminal end of the ileum was discovered in the course of an appendectomy or other exploratory abdominal operation. Finally, the significance of an intestine nearly obstructed by an acute bend and maintained so by strong peritoneal adhesions was forced on the attention of one more thoughtful than the rest, and he was fortunately unconventional enough to say to us that we had been overlooking something. Now, we not only find this important pathologic condition in a large number of cases, but we have learned to realize that it accounts for uncured appendicitis and some of us have demonstrated it by reoperating on our patients.

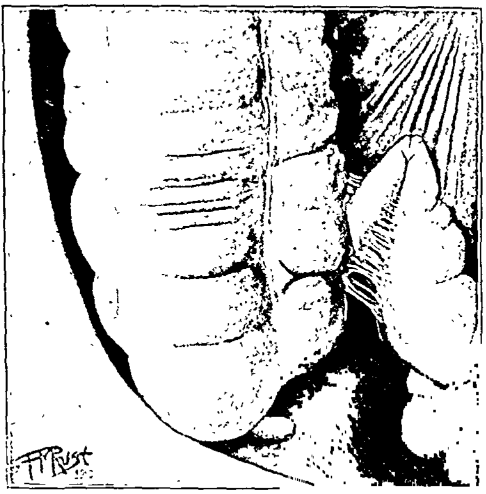


Fig. 3.—A typical Lane kink drawn from one of author's cases.

In the beginning we were satisfied (as we knew nothing else to do) to incise the adhesions, straighten out the bowel, tuck a mass of omentum in the uncovered space, close the abdomen, and as soon as the same condition reoccurred which caused the difficulty, viz., the patient assuming an upright position and pursuing his daily labors, the pathologic kink returned with all its symptoms. The method I have pursued is as follows:

Laparotomy through a right rectus incision. Treatment of any concurrent diseased condition after careful exploration of the abdomen. Separate, especially, the adhesions about the sigmoid and straighten out any acute bends of the intestines, as it is the acute bend in a disadvantageous position made permanent by adhesions which gives rise to symptoms; bring up the head of the cecum with the terminal portion of the ileum. If it is covered with an adventitious membrane (the Jackson veil, Fig. 5, B), as it frequently is, this should be torn through and the underlying structures freed from it. The ileum should then be made taut to reveal the maintaining adhesions and these adhesions carefully divided with a knife, or when particularly frail, with sponge dissection. This releases the intestine and it will unroll (as it is frequently twisted) and straighten out. The patient should be in Trendelenburg position during the operation. After the bend is freed, the cecum and the attached ileum are replaced in their normal positions. These new positions will frequently be much higher than the position in which they were found. The omentum is then spread over the parts treated and the abdomen closed.

Before the last procedure, in severe cases, the radical treatment that has been carried out by Mr. Lane and his followers has been to short-circuit a portion of the ileum above the seat of the obstruction to some portion of the lower bowel, and in extreme cases remove the colon. This procedure has been carried out on the theory that the kink will reoccur at the same portion of the ileum as before, and that the colon has been rendered worse than functionless by the same inherent vicious condition in the dynamics of the abdomen that has produced the kink.

As previously stated, I believe that these pathologic kinks occur as a result of the fact that the portion of the intestine with short mesenteries, the seat of the bend, has been unduly pulled on by the intestinal tube immediately proximal and distal to it, because of abnormal looseness of attachment of these portions to the parietes or the grinding and pressure of overriding, superimposed, prolapsed viscera, and to lack of abdominal support. Therefore, I believe that the rational procedure necessary to prevent a recurrence of the bend is to support the proximal and distal portion of the intestine adjacent to the corrected kink by peritoneal fixation if practicable and by reinforcing, temporarily at least, the abdominal wall by supports; and then by a course of gymnastics, postural treatment and forced feeding, correct permanently the mechanical defects.

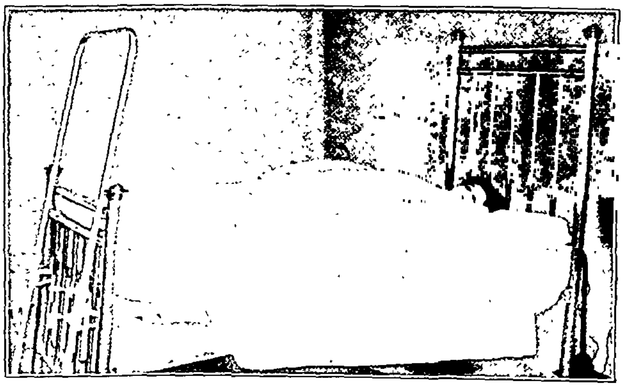
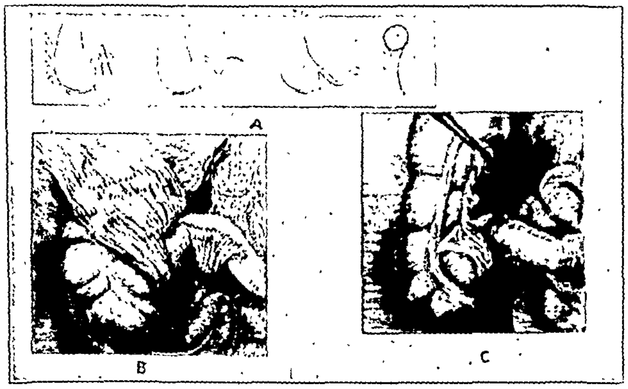


Fig. 4.—Mechanism for supporting the bed in Trendelenburg position. Author's case.

For some time I have endeavored to execute systematically the following procedure: (a) replacement of the adjacent pulling viscera, aided by the Trendelenburg position; (b) the application of a snugly fitting adhesive-plaster abdominal support over a reinforcement, immediately above the pubis, of a combination pad; (c) the transference of the patient from the operating-table to a bed with a 15-degree Trendelenburg inclination (Fig. 4); (d) a careful regulation of the food-supply as convalescence will allow until forced feeding is established; (e) with convalescence from operation, a careful application of a permanent abdominal support or corset to be worn during the day, always applied with patient in steep Trendelenburg; (f) systematic gymnastics of the abdominal wall for fifteen minutes twice a day, night and morning, with patient in Trendelenburg position without the abdominal support; (g) systematic regulation of the diet after convalescence, with the object of increasing flesh and depositing in all portions of the individual a padding of normal fat.

In the operation, careful observance should be made to ascertain, when a prolapsed cecum is one of the etiologic factors of the bend, if the prolapse is due to a lack of normal blending of the ascending colon with the posterior parietes. If the blending has failed to occur, the defect may be remedied by attaching the outer border of the ascending colon to the peritoneum of the parietes, thus imitating Nature's way of obliterating the mesentery in embryo. F. Gregory Connell[1] utilizes a portion of the Jackson membrane (this membrane frequently being present where the ascending colon has failed to attach) as a means of suspending the head of the large bowel, by including a twisted portion of the upper end of the membrane which has been detached, in the muscles of the abdominal wall in closing the parietal wound (Fig. 5, B and C).



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In a large percentage of the cases in which peritoneal blendings have failed to develop, however, there is such a universal visceral prolapse that it is futile to attempt to cure them by any form of "pexies," and I therefore carefully replace the organs, the force of gravity in the Trendelenburg position aiding, and depend on the week in bed with the lowered head and closely fitting bandage to retain the viscera at their normal level until convalescence begins.

Then comes the "tug of war" in the management of these cases. The perpendicular position of the patient with the resumption of routine duties will immediately, without the most strenuous efforts to counteract the effect, precipitate a relapse of the condition of kink with its attending disasters of local distress, stasis, toxemia and obscure anemias, by bringing into play the very factors that caused the difficulty originally.

The patient is fitted with a stout linen bandage constructed in such a manner that it definitely and adequately supports and uplifts the contents of the lower abdomen. These supports can be made after some general pattern (Figs. 6 and 7A), but each one must be carefully fitted by an expert bandage-maker and the surgeon must know that they accomplish the work for which they are intended. The support must be constructed, too, in such permanent shape that its reliability can be depended on. This bandage in women can be replaced later by a properly constructed corset (Fig. 7B).

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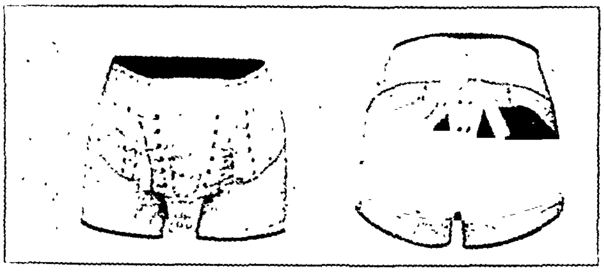

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The patient then retires after the fifteen-minute exercise of the abdominal muscles combined with the postural treatment. On rising in the morning, before the bath, the same posture is assumed and the exercise repeated. Then after the bath, with the patient still in Trendelenburg position, the abdominal support is applied for the day.

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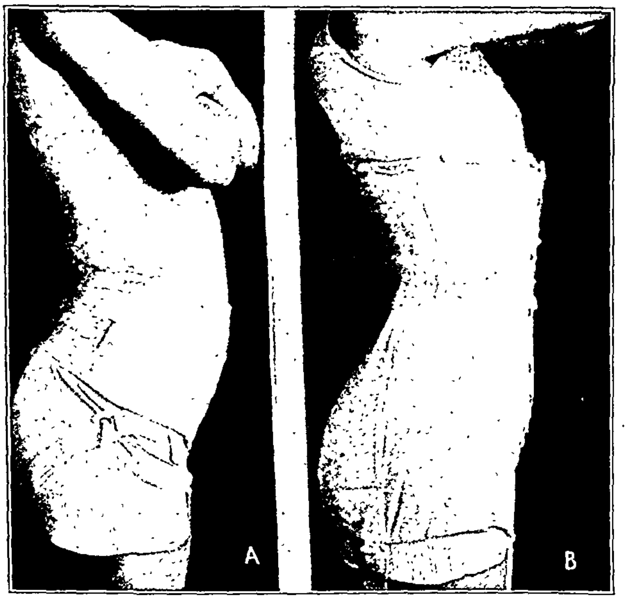

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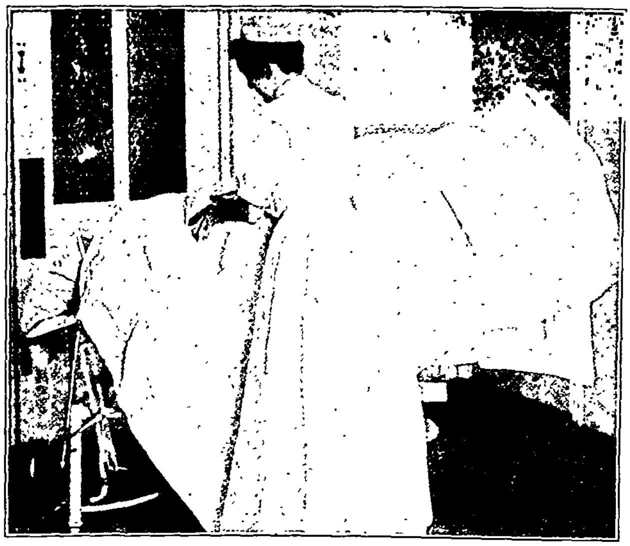

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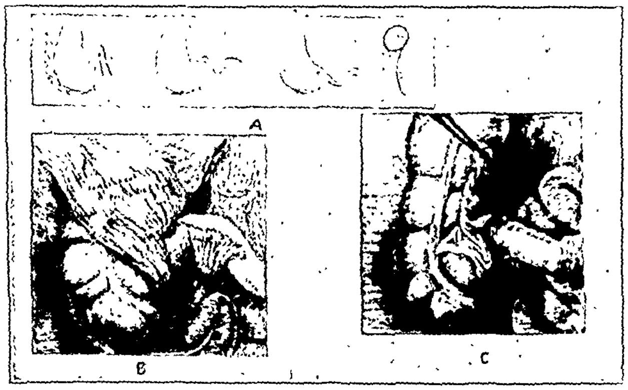

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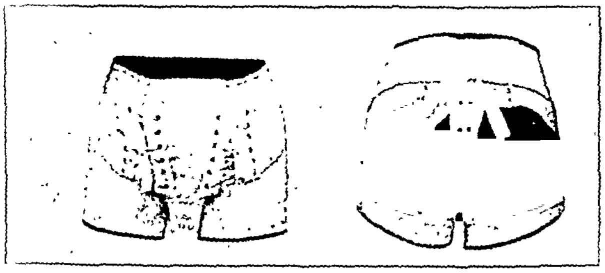

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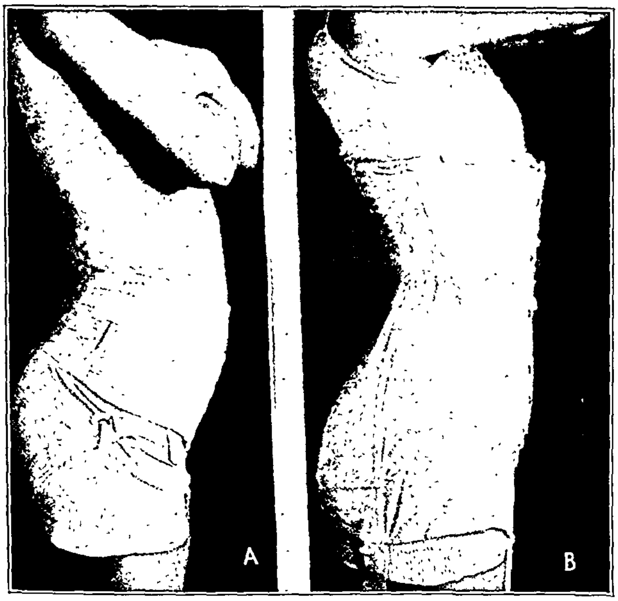

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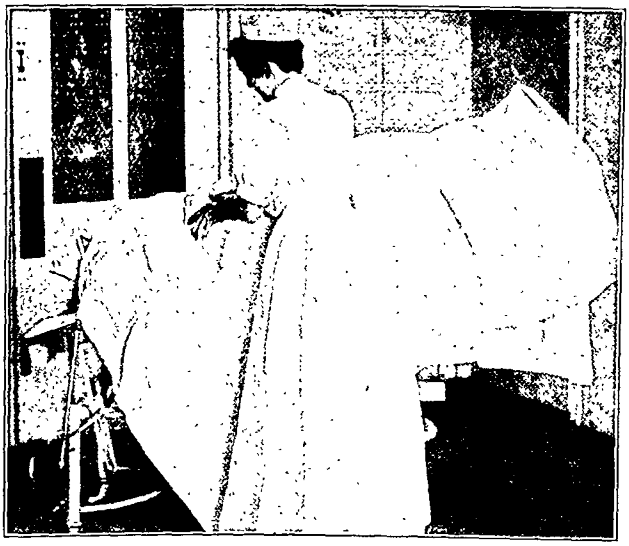

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Case 5.—Mrs. P. D., St. Luke's Hospital. Indigestion and pain in epigastric and appendicular region; patient suffered with constipation. Operated on once for loose right kidney. General visceral prolapse; neurotic temperament. Liver and all abdominal organs prolapsed and mesenteries long. A distinct Lane kink obstructing the ileum one-third of its caliber. Apex of kink adherent on the broad ligament. Appendix large and patulous (Fig. 10, E).

Case 6.—Mrs. W., Norwegian Tabitha Hospital. Acquired visceral ptosis. Chronic appendicitis with pain in right side, exacerbated when woman was active; symptoms: nausea, indigestion, anorexia and gas distention. Relieved by horizontal position and rest. Loss of flesh and extremely anemic. Operation revealed stiff adherent appendix beneath prolapsed cecum. Terminal ileum kinked and adherent with fine adhesions.

Case 7.—Miss H. M., St. Luke's Hospital. Operated on two years ago for chronic recurrent appendicitis. Patient only had temporary relief while resting during convalescence. The resumption of perpendicular position precipitated old symptoms of pain in right side, attacks of nausea and depression, with loss of flesh, anemia, anorexia, constipation and distention with gas. Always relieved by prolonged rest and bowel regulation.

Diagnosis: Kink of ileum (Fig. 10, G).

Operation revealed well-marked Jackson membrane. Free head of colon but marked kink of terminal ileum with adhesions; general visceral prolapse. Adhesions severed, kink relieved and postural treatment, abdominal support and feeding, with abdominal gymnastics later, completely relieved patient. Gained flesh and all symptoms relieved.

Fig. 9.—An extreme case with visceral prolapse and abdominal protrusion, restored after six months' management. Patient had extreme kink with definite intestinal stasis. Author's case.

Case 8.—Mrs. H., St. Luke's Hospital, Oct. 15, 1910. Chronic pain in right side. Exacerbated at times with nausea, gas distention, anorexia, extreme constipation. Patient lost flesh; extremely anemic. Always improved with prolonged rest in bed. Operation revealed long retrocecal appendix, adherent kink and adhesions of terminal ileum. Ileum rolled in its mesentery and lumen much narrowed. Relief of kink, severing of adhesions with postural, after-treatment, gymnastics and feeding which gave complete relief. (Fig. 10, H.)

Case 9.—Mrs. C., Hinsdale Sanitarium, Dec. 12, 1910. So-called "neurotic type." General visceral prolapse; extreme intestinal stasis. Pain in right side and exacerbation accompanied with extreme stomach pains, nausea, anorexia and most marked anemia. Patient had previously been operated on for cyst of right broad ligament and appendicitis. Operation revealed general visceral prolapse and a mass of adhesions about terminal ileum and cecum. The terminal ileum was looped, the pelvic loop adherent to broad ligament, and through the loop projected an 8-inch loop of distant portion of ileum (Fig. 10, I). All adhesions unraveled and patient treated by postural support, feeding, and later, gymnastics. Patient improved rapidly and promptly. Stasis and pain relieved; digestive disturbances disappeared. Patient gained rapidly in flesh. Two months later, unfortunately, this patient developed a vaginal abscess, which delayed complete recovery, but, notwithstanding, the improvement was remarkable.

Case 10.—Mrs. L. W. I., Hinsdale Sanitarium (aged 42; five children). For five years a sanitarium invalid. Always received benefit from rest, feeding, horizontal position and regulation of bowels. Has had pain in right side with stomach crises, chronic bowel stasis, considerable loss of flesh after each session. Diagnosis: Chronic appendicitis and Lane kink.

Operation showed general visceral prolapse, chronic appendix beneath a prolapsed cecum and well-marked multiple kinks of terminal ileum with adhesions. Patient relieved of kink, appendix removed and adhesions separated. After-treatment instituted, including immediate Trendelenburg, feeding, and, while convalescing and until the present time, postural treatment with abdominal gymnastics. Patient has gained 15 pounds; symptoms completely relieved; toxemia, anemia and stasis disappeared, and patient now is in best of spirits and health (Fig. 10, J).

Case 11.—Mrs. S., St. Luke's Hospital, March 7, 1911. Acquired visceral prolapse. Large woman; one child. Prolapse; retrodeviation. Had appendicitis during previous year. Lost 40 pounds; still weighs 180. Appendix adherent low in pelvis with prolapsed cecum turned to left and adherent to ileum; kink occurring at pull of mesentery. Appendix removed and adhesions separated; ileum replaced and cecum elevated. Uterus suspended on round ligament (Baldy) (Fig. 10, K).

Case 12.—Mr. H. (medical student). Defective type; general visceral prolapse. Had appendix removed five years ago; general adhesions at that time and extensive sepsis following. Since has had intestinal stasis, gradually getting worse. Cathartics of little avail. Considerable anorexia and much gas. Constant pain in right side between umbilicus and McBurney's point; anemia extreme. Diagnosed own case.

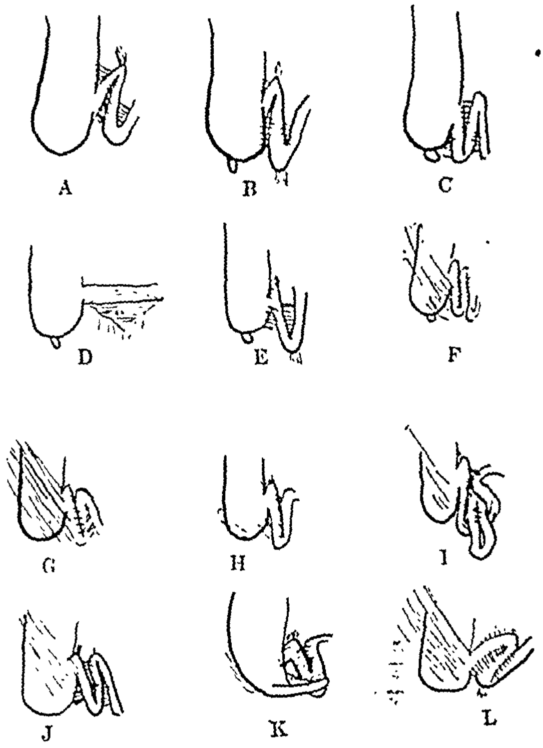


Fig. 10.—Sketches by the author of several of his kink cases.

Operation: Right rectus incision (Fig. 10, L). Cecum low; covered with Jackson membrane but not adherent. Terminal ileum bent acutely 4 inches from its end; apex of bend adherent at bottom of pelvis beneath Poupart's ligament. The two arms of ileum and their two mesenteries firmly adherent for surface of 8 square inches. Adhesions separated and ileum spread out. Patient was treated systematically by posture, bandages and gymnastics in Trendelenburg position. Gained 15 pounds and is now well.

31 North State Street.

ABSTRACT OF DISCUSSION

Dr. W. B. Dorsett, St. Louis: This condition of kinks frequently follows operative procedures. It is not an uncommon thing for the surgeon to say to the patient, "Lie perfectly still." The consequence is that adhesions always occur and frequently produce the condition found in the Lane kink. I have never gone so far as to place my patients in the Trendelenburg position, but have told them that when not in very great pain they may occupy any position in bed except on their "feet or head."

Dr. Arthur E. Hertzler, Kansas City: The pathology of this condition has been described as a "sclerosis mesenterica" by Richter. In the inflammatory condition we have an exudate pushing apart the two layers, including the fibrous tissue of the mesentery. We can predict what will be the subsequent course of an exudate of that kind. When that fibrous tissue develops it contracts. Two years ago I ventured a classification distinguishing between the newly-formed peritoneum, a pseudo-peritoneum and the so-called Jackson membrane, which is nothing more than a dilatation of the subperitoneal vessels. In the first case one may remove one peritoneum and have one left. In the other type, if you remove it, you have no peritoneum left and deprive the organ of its protection.

Dr. Louis J. Hirschman, Detroit: Did I understand Dr. Martin to state that in the treatment of this kink, after breaking up the adhesions, the ileum was stitched to the parietal wall?

Dr. Franklin H. Martin, Chicago: After breaking up the adhesions about the ileum kink if I find that a long mesentery is present on the ascending colon I imitate Nature's way of obliterating the mesentery by stitching the peritoneum of the outer border of the ascending colon to the parietal peritoneum, but I do not attempt to stitch the ileum.

Dr. Louis J. Hirschman, Detroit: In case of prolapsed cecum we have been led to believe that by stitching prolapses of the sigmoid flexure, particularly, and following up the histories of cases in which sigmoidal adhesion to the abdominal wall has been performed for the correction of the prolapse, a kink forms following operation just beyond the point where a fixation was made. We have always believed that in these cases of ptosis with elongated mesentery that it was not imitating Nature to suture that to the peritoneum or abdominal walls, but that we should incise the mesentery in a longitudinal direction and sew it transversely, thereby shortening the mesentery, bringing the viscus back to its proper place and not creating any pelvic or peritoneal adhesions where Nature did not intend them.

Dr. C. E. Barnett, Ft. Wayne, Ind.: The question just now is being somewhat investigated as to the interference with the kidney function of the Trendelenburg posture under anesthesia. I should like to ask Dr. Martin whether he has investigated the quantity of urine passed during this posture? It seems to me that our anesthetic hazard is considerable anyhow and that if the kidney is crippled at all, the Trendelenburg posture afterward would be a hazard that one could not risk. Regarding oils in the peritoneal cavity, I hope that their use does good, yet I have never believed in it. I do believe though that Dr. Martin's method of avoiding adhesions would answer better than any other way.

Dr. Franklin H. Martin, Chicago: In answer to the slightly implied criticism of pexy or fixation of the ascending colon: The large bowel at about the fifth month of embryo life rotates to the right and its whole mesentery becomes attached to the parietes to the right, the posterior layers disappearing after blending with the parietal peritoneum. Now if the cecum or larger bowel has failed to rotate—and it has in many cases—then we are not doing pexy; we are simply imitating Nature's way of obliterating the mesentery. Not only is it theoretically correct, but practically it works.

Honesty, Soul of Research.—The very soul of research, finally, is the highest degree of honesty. The investigator should see clearly and accurately with an eye single to the truth. He has to consider not only the observations which fit his theory, but any others as well. The erratic cases invariably make trouble, but they are often disguised blessings. They may indeed be of far greater moment than those which have been anticipated, for they may point the way to entirely unsuspected facts. After the investigator has completed his examination of a group of questions which have interested him, his leading idea, his tests and his results must be described with scrupulous exactness. In thus reporting his work he should strive to be like clearest crystal, receiving the light and transmitting it, untinged by any trace of color.—Cannon in *Science*.

FINGER PHENOMENON

A NEW DIAGNOSTIC SIGN OF ORGANIC HEMIPLEGIA

(PRELIMINARY REPORT)

ALFRED GORDON, M.D.
PHILADELPHIA

Since Babinski's discovery of his invaluable toe phenomenon as a pathognomonic sign of an organic involvement of the pyramidal tract of the central nervous system, a number of observers have concentrated their attention on various other reflex manifestations. They all, however, have reference to the lower extremities (Oppenheim, Gordon, Shäfer, Mendel-Bechterew, Grasset, Marie, Throckmorton and others). Hoover also described a valuable phenomenon enabling one to distinguish between an organic and functional disability. Here again it is the lower extremity that reveals the differentiating manifestation.

The upper limb has received comparatively little attention in this respect, or speaking more correctly, very few reflex phenomena have been observed and described with reference to the upper limb, which could be considered as indicative of an organic involvement of the cerebrospinal axis. Bechterew's or scapulohumeral reflex and the more recent "inversion of the radius reflex," described by Babinski are practically the only reflex phenomena which, with few exceptions, may be considered of diagnostic value. By no means, however, do the latter possess the clinical importance of the toe phenomenon. The paucity of diagnostic reflex phenomena in the upper limbs is therefore striking.

Although in the majority of cases there are no special difficulties in recognizing an isolated brachial monoplegia of cerebral origin or a paralysis of an arm, accompanying hemiplegia, nevertheless we encounter now and then isolated cases where the diagnosis of a functional and organic paralysis of an upper limb is made with some hesitation, to say the least.

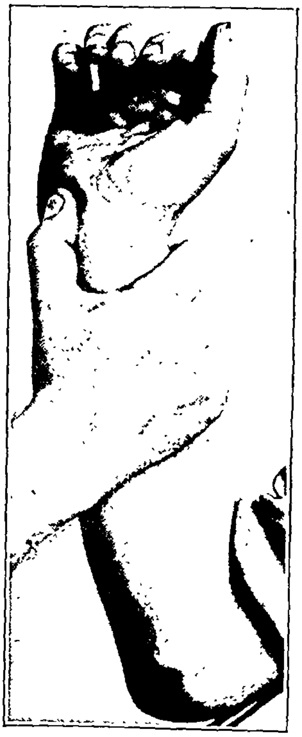


Fig. 1.—Position of thumb on pisiform body before pressure

In a certain small group of cases of hemiplegia dating from infancy, the paralyzed upper and lower limb or one of them (upper) may be free from spasticity and hypertonicity of the muscles, characteristic of ordinary hemiplegia, and present indeed a flaccidity. The latter together with the arrested development of the entire limb (bone as well as muscles), may suggest an old anterior poliomyelitis. In such cases the difficulty of diagnosis may be great, especially when the lower extremity has greatly improved and the upper extremity remained disabled; or when the lower extremity was originally very slightly involved and the largest part of the damage was done to the pyramidal fibers supplying the upper limb (cerebral monoplegia). The need of some diagnostic signs in cases of the category just mentioned is certainly evident. I have observed the following phenomenon in eight cases of complete hemiplegia.

The forearm of the patient's affected limb is elevated and the elbow is placed on a table. The support of the elbow is, however, not essential. The patient's wrist is then lightly embraced by the examiner's hand, with the thumb against the pisiform bone and the other fingers on the dorsal surface of the wrist (Fig. 1). Or one of the examiner's hands may be placed against the back of the patient's wrist, and thumb of the other hand against the pisiform bone. Pressure is then produced with the thumb against the pisiform body and especially on its radial side. Care must be taken not to produce pressure on the dorsal surface of the wrist where the extensor muscles are located. The fingers are then seen to extend and sometimes also to spread in a fan-like form, as Figure 2 illustrates the phenomenon in one of my patients. In some cases the extension is observed only in the last two fingers, in others, all five fingers extend, and in still others, the thumb and the next two fingers. The extension is sometimes more prompt and more distinct when the ring finger is slightly raised before the test and kept raised during the test. This finger must be supported very gently and in a semi-extended position.

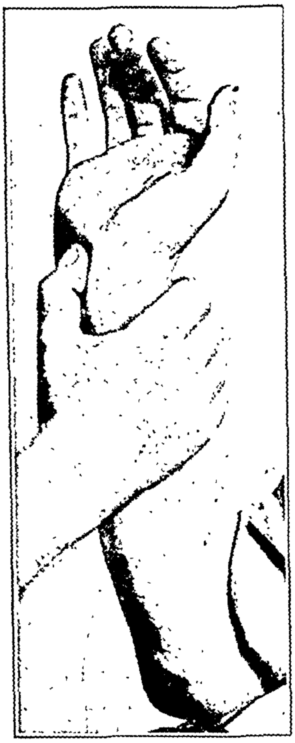


Fig. 2.—Pressure on radial side of pisiform body producing fan-like extension of fingers.

The phenomenon is not very marked in hemiplegias of old standing, in which the contracture of the fingers is very pronounced. In three such cases (not included in the series of eight) I could not obtain this reflex. In six cases of hemiplegia of comparatively recent occurrence, viz.: between two and six months, the reflex was prompt and was obtained at the first attempt. In the remaining two cases the phenomenon was elicited only after two or three tests made in succession. The eight cases examined were present in three children aged between 2 and 13 years, and in five adults. For the purpose of control I examined fifteen normal individuals, four cases of bracial palsy of poliomyelitic origin, and three cases of hysteric hemiplegia. The latter were very striking cases, all occurring after traumatic shocks; the palsy of both arm and leg was complete and rigidity was present. Hemianesthesia of functional type was conspicuous. Although the tendon-reflexes were all increased, Babinski's toe phenomenon was absent. The phenomenon of the fingers described here was absent in every one of them.

The eight hemiplegics, in whom the finger phenomenon was invariably present, do not constitute, of course, a sufficiently large number for generalization. Nevertheless, the continuous presence of the finger phenomenon in them and the absence of the latter in functional cases as well as in fifteen normal individuals warrant me in bringing the phenomenon to the attention of the profession. Further observation on a large number of cases is necessary.

As to the physiology of the reflex, it is well to remember that two muscles are attached to the pisiform bone, viz., flexor carpi ulnaris and abductor minimi digiti. That pressure on the insertions of these muscles should produce an elevation of all the fingers or only of the last two, or of the first three, is certainly an unexpected manifestation. In normal individuals an identical pressure on the pisiform bone (especially on its radial side) produces either no response at all or else a flexion of all the fingers.

An analogy between the finger phenomenon and phenomena observed in the lower extremity is striking. Normally, irritation of the plantar surface causes a flexion of the toes. When the pyramidal tract is involved, extension of the toes will be observed by the same test (Babinski). Normally pressure on the flexor muscles of the leg produces either no response or flexion of the toes. When the pyramidal tract is involved, extension of the toes will follow on the same test (A. Gordon). An identical condition is observed in the mechanism of the finger phenomenon described here: instead of flexion we obtain extension. Similar to the toe phenomenon, the finger phenomenon also strongly indicates an involvement of the pyramidal tract, as apparently it coincides with all other symptoms of a palsy of cerebral origin.

Whether the "finger phenomenon" is constant in hemiplegia, I am unable so far to say, as I have not examined a sufficiently large number of cases. If this phenomenon can be confirmed on a very large number of cases, its importance becomes obvious.

1430 Pine Street.

A CASE OF SPORADIC ELEPHANTIASIS

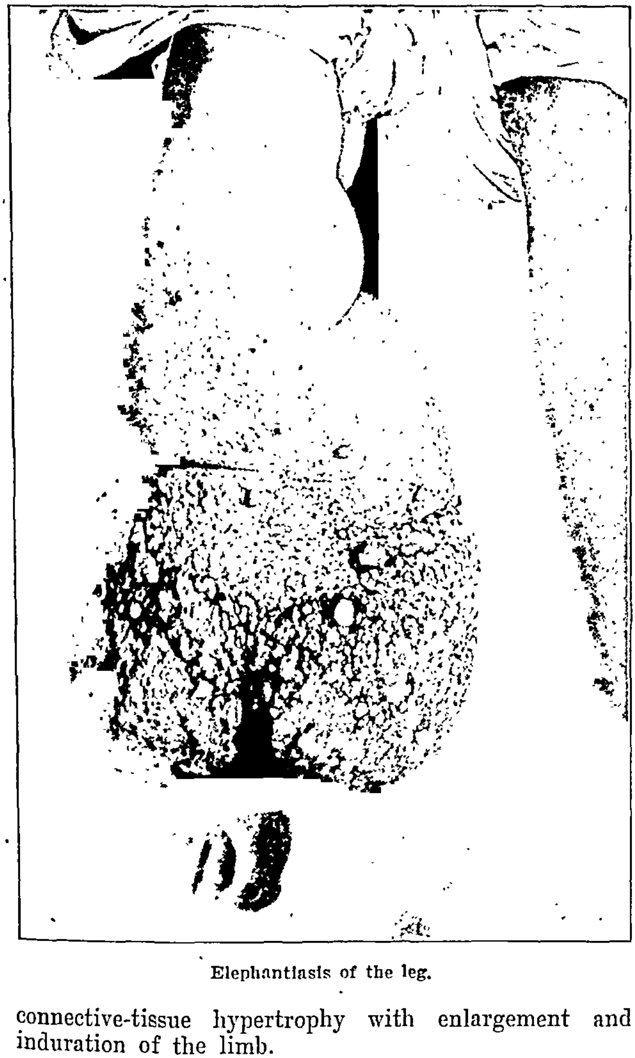
GILMAN J. WINTHROP, M.D.
MOBILE, ALA.

The case reported below is of interest chiefly because of puerperal thrombophlebitis as an etiologic factor.

History.—Mrs. N., white, aged 48, widow, native and resident of Alabama. No family history of tuberculosis, neoplasm or elephantiasis. Patient had measles, pertussis and varicella as a child. At age of 15, she had a mild attack of erysipelas of the left leg, which lasted a week or ten days and gave no further trouble. Menstruation began at age of 15 and has always been normal. She is the mother of five children, the oldest now 25 and youngest 15 years of age. A healthy, active woman until onset of present condition. Following the birth of her second child, twenty years ago, she developed "childbed" fever and a few days later a "milk leg" of the right limb. A painful, red swelling appeared in the right groin and the right ankle became somewhat swollen and edematous but showed no signs of local inflammation. The swelling about the ankle gradually extended to above the middle of the leg but disappeared, in great part, when the patient remained in bed or kept the leg elevated. Occasionally she suffered intense pain in the leg, usually accompanied by an erysipelatous-like inflammation with chills and fever. The skin exuded a milk-like fluid, which was especially profuse if the skin was bruised or broken, as not infrequently occurred. About ten years ago she noted that the leg was becoming gradually harder and the skin thicker and nodulated. The swelling no longer decreased when she was in bed or elevated the limb. This hardening of the tissues and thickening of the skin has slowly increased and extended toward the knee.

Examination.—The patient is poorly nourished; thoracic and abdominal organs are apparently normal. The right leg below the knee is enlarged, firm and indurated. The skin is thickened and nodulated, especially on the posterior surface of the limb. The sole and dorsum of the foot are not involved, but behind, the hypertrophy begins at the heel and merges into the growth above. Between the folds of hypertrophied skin the surface is foul from moisture and exfoliated epithelium. An eroded area on the inner and posterior part of the growth exudes a serous fluid. The blood shows no filaria after repeated examinations, and the cellular elements and hemoglobin are about normal. The urine is normal.

It would seem that the thrombophlebitis following labor produced chronic edema of the leg or by its extension caused an obliterative inflammation of the lymph-channels about the vein, with resulting lymph stasis. The persistent lymphedema produced a gradual connective-tissue hypertrophy with enlargement and induration of the limb.



Elephantiasis of the leg.

The nodular hypertrophy of the skin and subcutaneous areolar tissue is well shown in the photograph.

204 Conti Street.

For Untrammeled Health Officials.—Mrs. Caroline Bartlett Crane, speaking before the Illinois Woman's Press Association on "Common Problems of American Cities," emphasized particularly the need of an untrammeled health department in every city, with a well-paid health officer who could not be deposed or his work rendered useless by the will of some political boss. Mrs. Crane urged all members of the association to interview personally any health officer accused of inefficiency and ascertain if he were hampered in his work, if he had proper facilities for performing his duties and a sufficient number of assistants.

THE USE OF REBREATHING IN THE ADMINISTRATION OF ANESTHETICS [*]

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BALTIMORE

Since the very introduction of ether and chloroform the use of rebreathing in administering them has been under discussion. With chloroform it has seldom been permitted, while with ether until recent years it was considered desirable,[1] and ether was given almost exclusively by means of a closed inhaler of some sort. Since the introduction of the open method of etherization, however, rebreathing has fallen into disfavor, and writers now pretty generally condemn it.[2] It is my purpose to show that, contrary to this common opinion, rebreathing when properly regulated and when the oxygen supply is ample is harmless and can be put to a valuable use. The evidence in favor of this is derived partly from a series of 2,500 gas-oxygen and gas-oxygen-ether anesthesias given by a closed method at Professor Halsted's clinic, and partly from the recent and very important work of

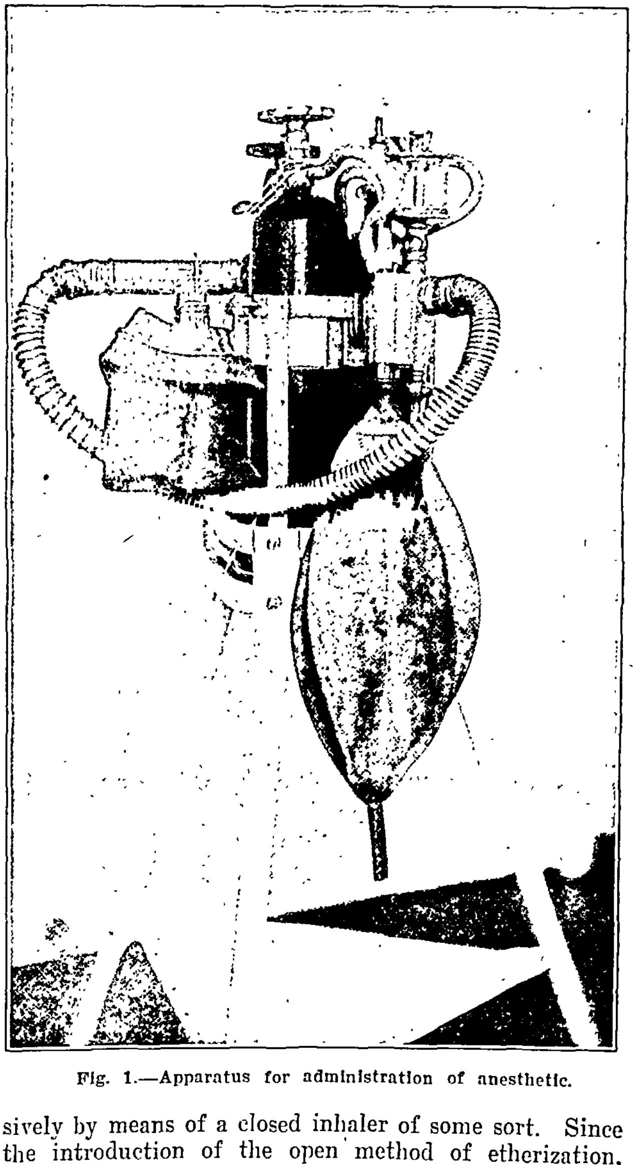

Fig. 1.—Apparatus for administration of anesthetic.

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[*] Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Hewitt: Anesthetics and Their Administration, Ed. 3, p. 329.

[2] Cunningham and Anderson: Methods of Administering Ether, THE JOURNAL A. M. A., Nov. 7, 1908, p. 1574.

the physiologists — Henderson,[3] Hill,[4] Haldane[5] and others — on the carbon-dioxid metabolism of the body. In a preceding paper[6] I have discussed the use of rebreathing in giving nitrous oxid with oxygen; here I wish to consider its use in administering any inhalation anesthetic, and more especially ether.

The subject can be approached most simply by considering the harmful results supposed to follow the administration of ether by the use of closed masks. I shall speak only of ether for the present, because most of the investigations bearing on the question of rebreathing have had to deal with this anesthetic. The ill effects in question may be grouped under two heads:

1. Injury to the lungs.
2. General toxic effects.

Dreser,[7] Offergeld,[8] Poppert[9] and Hölscher[10] have studied very carefully the effects of ether vapor on the respiratory passages. Dreser regards any concentration of vapor which cannot be inhaled by the patient while in the conscious state without discomfort and coughing as harmful to the lungs. Applying this test, he fixed on 6 per cent. to 7 per cent. as the highest concentration which should be used. Offergeld, experimenting on animals, found that the lungs after etherization by a closed method showed much graver injuries than after etherization by an open method. With the closed method he found extensive fatty degeneration and desquamation of the epithelium of the air-passages, also many minute hemorrhages into the alveoli; many of the animals died of bronchopneumonia. With the open method the pulmonary lesions were of a comparatively unimportant character, unless the administration was frequently repeated at short intervals. Poppert, whose experiments were similar to Offergeld's, concluded that ether vapor is more irritating to the lungs the greater its concentration. Hölscher studied the distribution of secretion in the air-passages during ether narcosis. He found that there is only a very slight secretion from the epithelium situated below the level of the larynx. By putting coloring materials into the mouths of anesthetized animals he proved that mucus and saliva may be aspirated into the deepest air-passages. His conclusion was that "affections of the air-passages occurring after ether are for the most part due to the aspiration of infectious mouth contents."

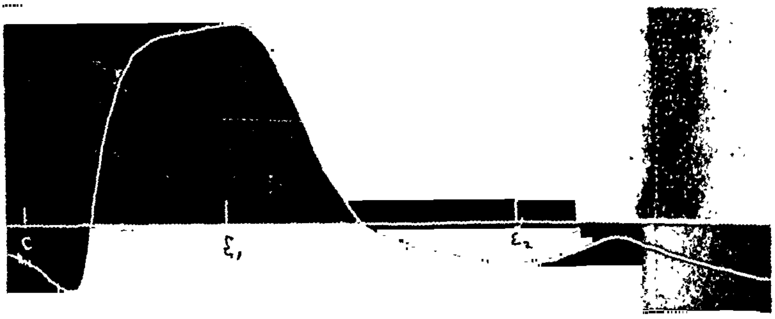

Fig. 2.—Tracing obtained from the pyloric ring of a frog suspended in a moist chamber into which ether vapor and carbon dioxid could be passed. At C. carbon dioxid was passed over the muscle, causing a sharp contraction. At E_1 very dilute ether vapor was turned on with the carbon dioxid, causing immediate relaxation. At E_2 the ether was turned off.

We can summarize the experimental results dealing with the effects of ether vapor on the lungs as follows:

1. The irritant action of the vapor varies according to its concentration.
2. Postoperative lung complications are frequently caused by the aspiration of mouth contents.
3. The greater severity of the pulmonary lesions found after experimental etherizations by the closed method can be satisfactorily accounted for by the great concentration of ether vapor in the closed masks and the greater liability to aspirate mouth contents when these are used.

We now have to consider why the general toxic effects which follow ether anesthesia are more severe after the closed method than after the open method. Writers are almost unanimous in asserting that they are so. The work of Ladd and Osgood[11] is very important in this connection. These authors studied the frequency of postanesthetic vomiting in patients after etherization with the Blake cone and in those etherized by the "gauze ether" method. Vomiting was much more frequent and severe among the former patients than among the latter. With the Blake cone cases they found acetone in the urine after operation in 88 per cent. of the cases, while with the "gauze ether" cases they found it in only 26 per cent. The technic and advantages of the open method are discussed by Miss Magaw,[12] who reports 14,000 cases with most satisfactory results. In short, there is no doubt that this method of etherization is better than the rather crude closed methods it has replaced. Of its disadvantages and dangers I shall speak later.

To what causes are the ill effects which follow the closed method to be traced? The causes commonly held responsible are the following[2]: (1) anoxemia, (2) over-concentration of ether vapor, (3) toxic organic substances in the expired air, and (4) excess of carbon dioxid in the expired air. The first and second of these possible causes are, I believe, the real ones. The third is imaginary, since the physiologists have demonstrated beyond any reasonable doubt that there are no organic poisons in the breath.[13] Concerning the excess of carbon dioxid, it is the purpose of this paper to show that it is harmless, and can be put to a valuable use.

It is perfectly evident that anoxemia and overdosage of ether, evils almost unavoidable when this anesthetic is given in a tightly closed mask, must do harm. We know that a deficiency of oxygen will quickly cause the gravest injuries to the tissues. Dreser found that the gas within closed etherizing masks would at times put out a burning candle! He also found that the ether vapor within the closed masks sometimes reached a concentration as high as 34 per cent., while 6 to 7 per cent. is the greatest concentration which can be inhaled without irritation to the air-passages. With such an overdosage of ether as this it is true that the excess of carbon dioxid within the closed masks is injurious, for it stimulates powerfully the respiration and leads quickly to an overabsorption of ether by the blood.

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[3] Henderson: Acapnia and Shock (a series of papers), Am. Jour. Physiol., 1908, xxi, 126; 1909, xxiii, 345; 1909, xxiv, 66; 1910, xxv, 310; 1910, xxv, 385; 1910, xxvi, 260; 1910, xxvii, 152.

[4] Hill and Flack: The Effect of Excess of Carbon Dioxid and of Want of Oxygen on the Respiration and the Circulation, Jour. Physiol., June 30, 1908; The Influence of Oxygen Inhalations on Muscular Work, Jour. Physiol., July 1, 1910.

[5] Haldane and Poulton: The Effects of Want of Oxygen on Respiration, Jour. Physiol., 1908, xxxvii, 390.

[6] Gatch: Nitrous Oxid-Oxygen Anesthesia by the Method of Rebreathing, The Journal A. M. A., March 5, 1910, p. 775.

[7] Dreser: A Contribution to the Study of Anesthesia by Ether, Bull. Johns Hopkins Hosp., January, 1895.

[8] Offergeld: Lungenkomplicationen nach Aethernarkosen, Arch. f. Chir., 1907, lxxxiii, 505.

[9] Poppert: Experimentelle und klinische Beiträge zur Aethernarkose und zur Aether-Chloroform-Mischnarkose, Deutsch. Ztschr. f. Chir., lxvii, 505.

[10] Hölscher: Experimentelle Untersuchungen über die Entstehung der Erkrankungen der Luftwege nach Aethernarkose, Arch. f. klin. Chir., 1898, lvii, 175.

[11] Ladd and Osgood: Gauze Ether, Ann. Surg., September, 1907.

[12] Magaw, Alice: A Review of Over 14,000 Cases of Surgical Anesthesia, Surg., Gynec. and Obst., 1906, iii, 795.

[13] Crowder, Thomas R.: A Study of the Ventilation of Sleeping-Cars, Arch. Int. Med., Jan. 15, 1911, p. 85; Haldane and Smith: The Physiologic Effects of Air Vitiated by Respiration, Jour. Path. and Bacteriol., 1892 and 1893, pp. 1, 168, 318; Heyman, Paul, Ercients, Flügge: Report of Experiments at the Institute of Hygiene at Breslau, Ztschr. f. Hyg., 1905, xlix, pp. 363, 388, 405 and 433; Hill and Walker: The Relative Influence of the Heat and Chemical Impurity of Close Air, Jour. Physiol., Nov. 9, 1910.

If the truth of what has just been stated be admitted, it follows that if we can prevent anoxemia, overconcentration of vapor, and too great a depth of anesthesia, we can obviate most of the serious objections to the closed method of giving ether.

I have so far limited the discussion to the administration of ether, but it will apply, in part at least, to all anesthetics given by inhalation—to chloroform, ethyl chlorid and nitrous oxid. With all of these it is evident that anoxemia must be prevented. With chloroform and ethyl chlorid, on account of their great toxicity, overdosage is the most important problem in administration. With nitrous oxid, in the absence of asphyxia overdosage is impossible. Ether requires a special consideration on account of the peculiar irritant action of high percentages of its vapor on the lungs and air-passages.

I have made use of the principles laid down in the foregoing paragraphs in developing a method of anesthesia, the technic and advantages of which I now wish to describe. Nitrous oxid and, if necessary, ether are the anesthetics used. The apparatus employed[14] consists essentially of a mask connected by a piece of flexible tubing to a rubber bag. This forms a closed space into which the patient breathes. On the mask is a valve-box by means of which the patient can be made to breathe to and fro into the bag, or to inspire from the bag and expire into the air, thus emptying the latter. The bag is attached to a small box, through which the current of gas must pass back and forth from the bag to mask. Into this box nitrous oxid and oxygen are admitted, and ether, drop by drop, from a receptacle above. The ether is vaporized in the box from a series of drip plates, and any excess of ether can be drained off at once by a stopcock. The method of administration is simple. The mask is adjusted carefully to the patient's face and the bag filled with nitrous oxid containing a very small amount of oxygen. The patient is made to breathe this mixture in and out through valves, thus replacing all the air in his lungs with nitrous oxid and oxygen. The bag is next refilled with the same mixture of gases which the patient is now made to rebreathe for from five to eight minutes. At the end of this time he is allowed to empty the bag, breath by breath, into the air, after which it is refilled, and the same procedure is repeated. Oxygen is given, without any attempt to estimate its exact percentage to the nitrous oxid, in quantities just sufficient to keep the patient's color free from cyanosis. If desired, nitrous oxid can easily be given under positive pressure, by keeping the bag slightly overdistended. This is sometimes a useful procedure in managing difficult cases. Anesthesia is usually established in less than two minutes. If the anesthesia is unsatisfactory with nitrous oxid alone, ether is added. This combined nitrous oxid-ether anesthesia has many points of practical and scientific interest and calls for a special consideration.

Ether is not given till the patient's respiration has been stimulated by the accumulation of carbon dioxid which results from the rebreathing. It is then added drop by drop. The heated gases quickly evaporate it from the drip plates, and it is rapidly absorbed by the blood because of the increased pulmonary ventilation. The most difficult subjects can thus be deeply anesthetized.

I have already referred to Dreser's experiments in which he proved that from 6 to 7 per cent. of ether vapor is the greatest concentration which can be inhaled by a patient in the conscious state without irritation and coughing. Precautions must be taken to keep the concentration of ether vapor in the mixture of gases below this level if we wish to do away with any possibility of injuring the lungs. This is quite easily accomplished, as the following simple calculation will show. The gasbag moderately distended holds about 10 liters of gas, the mask and tubing hold about 1 liter, and the entire respiratory system of the patient holds about 3 liters. When the patient is rebreathing, these all form one closed space with a total capacity of about 15 liters. Our problem is this: How much ether must be added to 15 liters of gas to make the concentration of ether vapor 7 per cent.? Professor Abel has very kindly performed this calculation for me and gives the amount of ether as 4.2 c.c. He desires me to state, however, that the conditions of the problem are so variable that the amount of ether required cannot be determined with absolute accuracy. The varying temperature in the apparatus, the loss of ether through leaks and by absorption in the lungs are factors for which no accurate data can be furnished. But absolute accuracy is not necessary, because the constant loss of ether gives us a wide margin of safety so that we can probably add ether much faster than our calculation allows without exceeding the danger limit.

With the drops of ether falling at the rate of 120 to the minute I have found that it takes two and one-quarter minutes to add the 4.2 c.c. Therefore, if we give ether at this rate and take precautions not to keep it dropping for more than two minutes at any one time, and to keep the bag constantly full of gas, we can be sure that the ether vapor will not reach a concentration greater than 7 per cent. If the anesthetist does not care to follow some such rule as this he can easily, and I think with perfect safety to his patient, estimate the strength of ether vapor by its odor as it escapes from the valve-box. In fact, ether is usually given for so short a time that even if it were administered in a somewhat concentrated form it would probably do no harm.

It has been found unnecessary to give ether constantly during the administration. When enough has been given to produce satisfactory anesthesia, this can be maintained with nitrous oxid alone, even in cases requiring a deep narcosis. This is to be explained by the fact that the rebreathing prevents the ether, once dissolved by the blood, from being thrown off as rapidly as it would otherwise be by the lungs, which are the organs by which it is practically all eliminated.[15] Suppose, for example, that a patient having a certain amount of ether dissolved in his blood is given some fresh nitrous oxid and oxygen to rebreathe. The ether will be thrown off from his lungs till the tension of its vapor in the gases being breathed will equal that in the blood. When this occurs no more ether will be eliminated until a new supply of gas is furnished.

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[14] I have already described the apparatus elsewhere in some detail (Note 6). It will be noted that the arrangement for giving ether has been changed so as to permit of a more accurate dosage. The method of administration is practically unchanged, except that I now allow rebreathing for somewhat longer intervals

[15] Hewitt: Anesthetics and Their Administration, Ed. 3, p. 50; Cushny: Pharmacology and Therapeutics, Ed. 4, p. 166; Cushny: The Exhalation of Drugs by the Lungs, Jour. Physiol., xl, 17; Nicloux: Elimination de l'éther contenu dans le sang après l'anesthésie pendant la *période de retour*, Cont. rend. Soc. biol., 1907, i, 8.

Not only can we prevent the elimination of ether by rebreathing, but we can also hasten the elimination by a rapid ventilation of the lungs with fresh gas. During the process of rebreathing, carbon dioxid accumulates in the body and stimulates the respiratory center so that the breathing becomes deep and rapid — often fifty or sixty respirations to the minute. When a patient, anesthetized in the way I have described and breathing at such a rate, is given a fresh supply of gas and allowed to discharge each breath into the air, he apparently rapidly rids himself of the small dose of ether he has been given. Thus it is possible to anesthetize a patient so deeply that he will not stir during a Whitehead operation, and yet have him conscious before leaving the operating room. By careful administration we can in most cases keep the patient from knowing that he has been given any ether at all, so complete and rapid is its elimination.

I would suggest that this method of removing a volatile anesthetic by rapid ventilation of the lungs be used at the close of every administration of chloroform or ether. The increased pulmonary ventilation can be easily brought about by making the patient breathe in and out, through valves, air or oxygen containing a small percentage of carbon dioxid. I have had such a mixture of oxygen and carbon dioxid prepared which contains 7 per cent. carbon dioxid, but have not had the opportunity to give it a clinical trial.

In this connection it is interesting to consider the effect which morphin has on the elimination of ether or chloroform from the body. Morphin decreases markedly the rate of pulmonary ventilation.[16] Large doses of it must therefore retard the elimination of the anesthetic and thus increase its toxic action. It is often possible to detect the odor of ether or chloroform on the patient's breath for several hours after operation. This slow excretion may be due, in part at least, to the morphin, a hypodermic of which is necessary before or after almost every anesthesia. Perhaps this effect of morphin can be prevented by means of the method I have just described for quickly eliminating the anesthetic.

In the preceding paragraphs I have discussed how ether can be safely introduced and speedily removed from the patient's system. During its stay therein we are powerless to prevent its toxic action. By giving it, however, in combination with nitrous oxid and morphin we can reduce its dose, and therefore its ill effects, to the minimum, since the major portion of the anesthesia is produced by the other two drugs. It is probable also that the effect of ether when thus administered with other narcotics is relatively much greater than when given alone, as it is well known that narcotic drugs given in combination reinforce one another's action.[17] Thus the powerful joint effect of morphin and scopolamin has been explained.

I shall devote the remainder of this paper to matters of direct clinical interest. The form of anesthesia herein described has now been in use in the surgical clinic of the Johns Hopkins Hospital for two years. Here over 2,500 patients have been anesthetized by this method. It is now our routine form of anesthesia for all operations except those on the face, upper air-passages or cranium. In these we have found it inconvenient on account of the difficulty of keeping the mask in place.

Before operation the patient is given an enema and deprived of food for several hours, but is allowed to take small quantities of water. About thirty minutes before the anesthesia is begun he is given a hypodermic of morphin and atropin, the dose for an adult being morphin one-sixth grain, atropin 0.01 grain. The anesthesia is started after the patient has been placed on the table and while the field of operation is being surrounded by sterile towels. It is established so quickly that the incision can usually be made in two minutes after the mask has been put on. Any depth of anesthesia which the condition of the patient and the nature of the operation may require can be easily obtained, because of the control of the patient's respiration which is given by the rebreathing. In abdominal operations, if the increased activity of the respiration is inconvenient, it can be prevented by giving a fresh supply of gas at frequent intervals. The bleeding during gas-oxygen or gas-ether anesthesia is about the same as during open ether anesthesia. The patient's temperature, provided he is kept dry and covered, will be found elevated from 0.5° to 2° after an hour's operation. With light narcosis under nitrous oxid and oxygen alone, the pulse may be rapid (from 140 to 160 to the minute) but this is of no significance provided it is regular and of good quality, and there is no hemorrhage. The rapid heart-rate decreases when ether is given.

This form of anesthesia is especially well suited for long operations. In fact the anesthesia does the patient so little harm that within reasonable limits the duration of the narcosis need not be considered. The surgeon can therefore operate with a deliberation and attention to detail that would otherwise be unjustifiable. The following typical cases show the truth of this contention:

Case 1.—The patient was a negro man, aged 27, in good physical condition. Operation: Excision of a sarcoma from the right popliteal space, and blood-vessel transplantation. Duration of anesthesia, five hours. The pulse-rate per minute varied from 72 to 100. The blood-pressure at the end of four hours of anesthesia was 130 mm. of mercury. The patient regained consciousness before leaving the table. He had no headache, nausea or vomiting, though he was given water at once. His urine after operation contained no albumin or acetone. He was allowed to rebreathe at two and one-half and three-minute intervals. The narcosis was deep and quiet. Ether was given with the gas for the first half hour.

Case 2.—The patient was a white woman, aged 30, in rather poor condition. Operation: Resection of the ascending and transverse colon. Duration of anesthesia two hours and five minutes. No ether was used. The narcosis was light, the patient at times moving her limbs. Recovery was immediate and unattended with headache or vomiting.

Case 3.—The patient was a colored woman, aged 30, in good condition. Operation: Excision of the right breast, pectoral muscles and axillary glands for advanced cancer of the breast, Thiersch skin grafting of the raw surface of the breast. Duration of anesthesia, three hours and fifty-five minutes; 2½ ounces of ether, 130 gallons of gas and 30 of oxygen were used. The anesthesia was quiet and satisfactory, the recovery immediate and without headache, nausea or vomiting.

I could report many more cases similar to the above, but these show sufficiently well how little the patient is injured by this form of anesthesia. A word of caution is, however, necessary. This is that during any administration, and especially during a long administration, the patient's breathing must be kept free and unobstructed, and his color good. If a patient has to work hard for every breath he soon wears himself out. The color of the blood in the wound, the hue of the patient's face, and the character of his breathing as shown by the movements of the rubber bag are the best indicators of his condition. The surgeon himself can hardly fail to notice these. If the patient's breathing cannot be kept unobstructed the use of the apparatus should be abandoned at once and some other method of anesthesia used.

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[16] Cushny: Pharmacology and Therapeutics, Ed. 4, p. 211.

[17] Führer: [illegible] Untersuchungen über die Mischnarkose, Münc[illegible] 1911, No. 4; Bürge: Die Wirkung von [illegible] Deutsch. med. Wchnschr., 1910, Nos. 1 a[illegible]

We have had three fatalities, during or immediately after operation, in our series of 2,500 cases. How much the anesthesia was to blame for these may be judged from the following reports:

FATALITY 1.—The patient was a colored woman, aged 44, with exophthalmic goiter of four years' standing. She had an irregular, intermittent pulse, the rate of which had been between 120 and 140. Her heart was enlarged, and she had ascites and edema of the ankles. During the last week of her life she had several severe attacks of dyspnea, associated with extreme rapidity and irregularity of the pulse. For these she was given a course of digitalis, which improved her condition so much that it was thought she could withstand a partial thyroidectomy. When the mask was placed over her face, she made a very slight struggle and took several shallow breaths. The operator then saw the superficial veins of her neck suddenly dilate. This apparently marked the time of death, and occurred within half a minute of the time the anesthetic was started.

FATALITY 2.—The patient was a man with aortic and mitral insufficiency, on whom it was proposed to do a perineal prostatectomy. He was given ether with the gas and oxygen. The anesthesia went very well till the patient was placed on the perineal table with his buttocks elevated; then he became cyanotic and died. An immediate autopsy revealed the presence of a large pericardial effusion, the presence of which had not been recognized before operation.

FATALITY 3.—The patient was a girl of 16, with multiple infectious arthritis; general condition poor. Operation: Injection of both knees with oil and manipulation of knees, ankles and elbows. Duration of anesthesia fifteen minutes. The anesthesia was uneventful, except for a marked increase in pulse-rate while each joint was being manipulated. At no time was the breathing obstructed. At the close the pulse-rate went up very rapidly; the color became cyanotic and could not be cleared up with oxygen. The breathing became weaker and weaker and finally ceased.

An autopsy showed a very large thymus and hypertrophy of all the lymphatic tissues. The pathologists gave status lymphaticus as the cause of death.

The first and second of these patients had circulatory disease of such gravity that the anesthesia is not to be seriously blamed for the deaths. How the third fatality was brought about I am at a loss to understand. The toxicity of nitrous oxid is certainly too low to have caused it.

Notwithstanding these fatalities I believe that this form of anesthesia properly employed is well suited for cardiac cases. Two cases of cesarean section performed by Prof. J. W. Williams on women with serious valvular lesions will show the grounds for this belief. Both women were in about the seventh month of pregnancy, and in both delivery was necessary to save the life of the patient. One of the two was *in extremis* and her death on the table was regarded by the operator as probable. Both women had such urgent dyspnea that the anesthetic had to be started with the patient sitting upright. The same method of administration was employed in both cases. Each patient was given a hypodermic of morphin large enough to quiet her. In inducing anesthesia great care was exercised to avoid the least excitement or struggling on the part of the patient. Both were allowed to rebreathe oxygen till the respiration was stimulated before any nitrous oxid was given. Enough ether was used to give a quiet anesthesia. The operations were performed with the patients' bodies elevated at an angle of 20° to 30°. The pulse of both patients was much better during anesthesia than before, and the operator was able to proceed without undue haste. Both patients made an excellent recovery.

I have hitherto spoken of the advantages of an excess of carbon dioxid in the blood — a hypercapnia — during anesthesia. Our clinical experience has certainly shown that this, to the degree we permit, is harmless. Hill and Flack[4] state that "the effects of carbon dioxid on the heart can always be quickly recovered from, even if the blood-pressure has sunk to zero." These authors found that carbon dioxid up to a percentage of 35 in the air breathed stimulates the respiration, while above 35 it depresses it; also that percentages up to 22 produce a rise in blood-pressure, while higher percentages cause a fall. Of course it is impracticable to determine exactly what percentage of carbon dioxid a patient is breathing. The anesthetizer must regulate the time of rebreathing so that the patient's respiration is moderately stimulated. The periods of rebreathing for 10 liters of gas range from three to five minutes, any leakage from the apparatus being meanwhile made good by the addition of fresh gas.[18]

Does a deficiency of carbon dioxid in the blood —acapnia —do serious harm? The work of Henderson[3] on this problem is so well known as to require no more than a reference here. He has been able to reduce animals to a state of extreme shock by overventilation of their lungs. He asserts that acapnia causes complex osmotic changes in the tissues, which result in a passage of water from the blood into the lymph and into the tissue-cells and a dilatation of the finer veins. Interference with the normal filling of the right side of the heart by this process is the essential phenomenon in surgical shock. In extreme cases of acapnia the blood-stream is so scant and the respiration so feeble that the tissues do not receive the necessary amount of oxygen. An asphyxial acidosis results which does the body-cells irreparable injury. Whether we accept Henderson's theory or not we must admit that the accumulation of carbon dioxid by the process of rebreathing is an efficient stimulus to the respiration and circulation. In fact we use it as a purely therapeutic measure in cases of morphin poisoning, in cases of so-called traumatic or toxemic shock,[19] and wherever the respiration is feeble.[20] Oxygen can be given much more effectually and cheaply by the use of rebreathing than in the ordinary way. Thus with anesthetics of low toxicity and the use of rebreathing we can sometimes actually benefit a very ill patient by an anesthesia.

On the other hand, when we give ether by the open method we take a very efficient means of producing acapnia, because ether diminishes the formation of carbon dioxed by the tissues, and by stimulating the respiration hastens its elimination as well. Symptoms of a mild grade of acapnia under open ether anesthesia are common. Thus a patient who has perhaps been difficult to anesthetize or who has been lightly under ether for some time and is breathing at a rapid rate will gradually stop breathing. After an interval of perhaps two or three minutes his respiration will start again but will not be normal for a long time. This occurrence, though alarming, is usually followed by no harmful results. Of course hundreds of patients are etherized daily by the open method without developing symptoms of shock. What prevents a serious grade of acapnia in the great majority of cases? There are a number of things which do so. In the first place many anesthesias are of too brief duration for acapnia to develop. Then again there is frequently more or less obstruction to the breathing during narcosis, and this prevents acapnia. Likewise the slowing of the respiration which results from a preliminary hypodermic of morphin may protect from the same danger.[21] Finally, the so-called "open" method is usually not "open" at all, for the mask is so covered with towels or gauze that the patient does considerable rebreathing.

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[18] After rebreathing 10 liters of oxygen for three minutes, I found it to contain 8.9 per cent. CO_2. Allowing for decreased CO_2 formation during anesthesia, it is probable that the percentage breathed by the patient is seldom above this.

[19] Patients with feeble pulse and respiration—so-called "shock" cases—should be made to rebreathe air in oxygen till their respiration is normal before breathing the anesthetic.

[20] Levi, Ettore: Studies on the Patho-Physiologic Action of CO_2 and on the Therapeutic Applications in Surgery and Medicine of Mixture of O_2 and CO_2, Estr. d. Rev. crit. di clin. med., 1910, xi, 30 and 31.

It is a pity that in a case like the following accurate determination of the amount of carbon dioxid in the blood could not be made, so that we could judge whether or not death was due to acapnia:

> The patient was a well-nourished middle-aged woman, with no disease of the heart or blood-vessels, on whom a colostomy and an excision of the rectum was done for a carcinoma. The anesthesia was by the "drop ether" method and was of two hours' duration and rather light. The patient's breathing was rapid and carefully kept free from obstruction. There was practically no loss of blood and but little trauma connected with the operation. The patient never regained complete consciousness, though she could respond feebly when spoken to. Her pulse was rapid and of poor quality; her temperature subnormal, her color slightly cyanotic and her respiration very feeble. She never rallied, and died eight hours after operation. An autopsy showed no apparent reason for death, which was attributed to surgical shock.

Is it not possible in this case that an acapnia had produced fatal injuries to the tissues in the manner described by Henderson?

Apart from the prevention of acapnia the form of anesthesia I have described has several other advantages over open ether anesthesia. The chief of these are three: (1) lessened postanesthetic vomiting; (2) decrease in number of cases of abdominal distention after operation; (3) practical abolition of postanesthetic lung complications.[22]

Vomiting after operation, of course, depends on many things besides the anesthetic. About 35 per cent. of our patients vomit, but the vomiting is usually very little. In looking over the special charts of 200 patients I found only four who had had more than very transient vomiting. Of the cases one was a case of exophthalmic goiter, one a case of stone in the common bile-duct, one a case of spreading peritonitis from an appendix abscess, and one a case of intestinal resection. The nausea alone seldom prevents a patient from taking water and nourishment at once after operation.

There has been very little experimental work on the question of abdominal distention following ether anesthesia. Cannon and Murphy[23] observed a great delay in the emptying of the stomach contents into the duodenum, and a slowing of the passage of food along the intestines after etherization. Figure 2, which is a tracing obtained from Dr. D. R. Hooker,[24] demonstrates the paralyzing effect of a weak ether vapor on the pyloric ring of the frog. It also shows that carbon dioxid acts as a powerful stimulant to the muscle of the ring. Of course the conditions to which the bowel was subjected when this tracing was obtained were abnormal, still the paralysis by ether is exactly what any clinician would expect. It is well recognized that an excess of carbon dioxid in the blood promotes peristalsis, and Henderson[25] has shown that the normal intestinal movements, which cease after a laparotomy, can be restored by passing a stream of carbon dioxid over the exposed bowel. These experimental results are confirmed by our clinical experience. It will be recalled that we use the smallest possible amount of ether, and produce a hypercapnia by making the patient rebreathe. In the 200 cases referred to above there was not a case of abdominal distention except after laparotomy, and among the laparotomies, seventy-five in number, it occurred in but three cases, these being the same patients who had considerable vomiting.

In 2,500 cases of gas-oxygen or gas-oxygen-ether anesthesia we have had but one case of postanesthetic pneumonia; this was in a girl with general peritonitis, who recovered. I am perfectly aware that this absence of pneumonia has been partly accidental, since pneumonia after operation may be due to causes other than the anesthetic. The record is, however, striking, and all the more so because we have anesthetized without hesitation, in cases of pulmonary tuberculosis, bronchitis and empyema. It contrasts markedly with the record after open ether. Here in a series of 400 cases we have had one death from ether pneumonia, and two deaths, one with autopsy, from acute pulmonary tuberculosis.[26] The latter patients were both operated on for tuberculous glands of the neck. Both patients died rather late — in from two to three weeks — after operation, but they ran a high temperature from the first. It was the opinion of Dr. L. V. Hammond, who has charge of the work on tuberculosis at the Johns Hopkins Hospital, that the etherization had lighted up small apical foci of disease undetected before operation.

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[21] Crile: n Surgery; p. 281.

[22] Homan Pulmonary Complications, Bull. Johns Hopki

[23] Cannon Movements of the Stomach and Intestines in Some Surgical Conditions, Ann. Surg., April, 1906, xlii, 513.

[24] I wish to thank Dr. Hooker for permission to publish this tracing and for the *following note:*

"Dr. Gatch has asked me to add a note covering some unpublished experiments done in the physiologic laboratory of the Johns Hopkins University, which appear to have a direct bearing on his own work.

"Cross-sections of blood-vessels or intestine, to which a recording lever was attached, were hung in a moist chamber. In the use of tissue from warm-blooded animals the temperature of the chamber was maintained constant at 35 C. Through the chamber were passed alternately streams of oxygen and carbon dioxid gas. By this method the tissue studied was exposed to practically pure atmospheres of the gases. The experimental conditions, therefore, did not fall within physiologic limits, so far as the percentage of gas is concerned. Work is now in progress to investigate the effect of different percentages of oxygen and carbon dioxid. Aside from the result of this future work, however, the interesting fact has been demonstrated that the musculature of the blood-vessels responds in atmospheres of the gases, studied in an exactly opposite manner to the musculature of the intestines. Carbon dioxid causes a marked improvement in the tone of the intestines and a marked relaxation of tone in the veins and arteries. On the other hand, oxygen causes a relaxation of tone in the intestines and an improvement of tone in the veins and arteries. These results were obtained in the case of both warm-blooded and cold-blooded animals and demonstrated with graphic records.

"If it be true that Henderson reasoned by analogy from the behavior of the smooth muscle in the intestine to that in the blood-vessel (especially the veins) in developing the acapnia theory of surgical shock, it is obvious from these results that his reasoning was not entirely justifiable.

"The correlation of the difference in action of these gases in physiologic economy tempts speculation. The body seeks to rid itself of any excess of carbon dioxid. Jerusalem and Starling (Jour. Physiol., 1910, xl, 279) have shown that carbon dioxid (0.625 of an atmosphere) increases the efficiency of the isolated mammalian heart chiefly by improving its diastolic relaxation. Bayliss (Jour. Physiol., 1901, xxvi, 32) has shown that this gas relaxes vascular tone. It has long been known that in the intestine the same gas increases peristalsis and Mall (Johns Hopkins Hosp. Rep., 1896, i, 37) has suggested that rhythmic movements of the intestines may help to empty the venous plexuses in the walls and thus aid in driving the blood into the portal system. We have, therefore, a coordination of activity which greatly facilitates the circulation of blood and the consequent rapid elimination of the carbon dioxid. Oxygen in excess, on the contrary, would tend to bring about opposite effects with a resultant retardation of the circulation.

"In conclusion, it should be clear to the reader that this is a chemical regulation of the circulation entirely peripheral in its action. The action of the gases on the medullary centers is a wholly different question."

[25] Henderson: Shock After Laparotomy, Its Prevention, Production and Relief, Am. Jour. Physiol., 1909, xxi, 60.

[26] Walsh: Chloroform Rather Than Ether Anesthesia in Tuberculosis, The Journal A. M. A., Aug. 28, 1909.

In closing I do not wish to leave the impression that this form of anesthesia is free from danger. It is without danger so far as postoperative effects are concerned. During the administration, however, there are dangers, though these can always be prevented by careful and skilful administration, and arise from causes which can generally be foreseen. The method should not be used except by those who have made a special study of its problems.

SUMMARY

1. Rebreathing, when properly regulated and when the oxygen supply is ample, is harmless and can be put to a valuable use.

2. If we can prevent anoxemia, overconcentration of vapor and too great a depth of anesthesia, we can obviate most of the serious objections to the closed method of giving ether.

3. The process of rebreathing prevents the elimination of ether and chloroform by way of the lungs, and overventilation of the lungs hastens the elimination.

4. It is suggested that after any administration of ether or chloroform, overventilation of the lungs be brought about by the use of mixtures of oxygen and carbon dioxid.

5. Morphin, or any drug which depresses the respiration, retards the elimination of ether or chloroform.

6. A method of administering nitrous oxid and if necessary ether with oxygen by the method of rebreathing is described and its advantages and dangers discussed.

Its chief advantages are (1) the rapidity and pleasantness with which anesthesia is established; (2) the ease with which any depth of anesthesia can be secured; (3) the prevention, to a very large extent, of postanesthetic vomiting, pulmonary complications and abdominal distention.

Its chief dangers are (1) anoxemia due to a failure to give sufficient oxygen or to an obstructed air-way; (2) impediments to the respiration, which in a long anesthesia may exhaust the patient; (3) with cardiac cases excitement during the period of induction.

[DISCUSSION ON THE PAPER OF DR. GATCH APPEARS ON PAGE 1611 OF THIS ISSUE.]

ANESTHESIA, WITH ESPECIAL REFERENCE TO NITROUS OXID AND ITS SEQUENCES

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It is desirable to call attention to two points of considerable importance in relation to anesthesia in general. The first of these is the need of all general anesthetics being administered, as far as possible, by or under the supervision of trained anesthetists. There can be no reasonable doubt that a very large proportion of the mortality from postoperative conditions, as well as from the anesthetic *per se,* is due to the unskilled administration of these powerful drugs. In its report, the Anesthesia Commission of the American Medical Association calls particular attention to this in the following words:

> From the statements set forth you will see something of the breadth and of the intricacy of the present-day problem of anesthesia. It is a striking fact that all the newer methods demand expertness, experience, and special apparatus.

The surgeon, moreover, should be relieved from all anxiety concerning and responsibility for the anesthetic in order that he may devote his undivided attention to the work in hand.

The second point is the necessity of selecting the anesthetic or combination or sequence of anesthetics suitable for the special condition to be met. On this point Hewitt says:

> Putting aside for the present certain exceptional circumstances . . . it may be said that the practice of employing one anesthetic for all cases must now be regarded as belonging to a bygone time. To insure success in inducing and maintaining general anesthesia we must vary our anesthetic and our methods of using it, according to the exigencies of the case with which we have to deal.

The anesthetist should make a careful study of the situation, not only with regard to the patient's temperament and physical condition but also in relation to the nature of the operation. This is particularly true of procedures on the head and throat, in which cases it is incumbent on the anesthetist to so plan his work as to offer the minimum of interference to the surgeon. After a due consideration of all factors, he should choose that anesthetic and method of administering it which best fulfils the indications. He should, however, at all times be prepared to abandon his prearranged scheme and adopt another should the exigencies of the case so require. Occasionally, a case will arise that will tax to the utmost the administrator's skill, ingenuity and armamentarium. As an example, I quote the following notes on a case observed while anesthetist to the Eye and Ear and South Side Hospitals, Pittsburgh, Pa.:

Patient.—Miss B., aged 22, suffering from some obscure stomach condition, characterized for the last ten days by constant vomiting after eating. Medium build; moderately anemic. Pulse 84, fair volume and tension. Chest negative, except for slight weakness of cardiac first sound.

Operation.—Exploratory laparotomy. The attending surgeon stated that on a recent occasion it was found impossible to produce complete anesthesia with the morphin-ether sequence (open method) and that the operation had to be abandoned after incision to the peritoneum, owing to signs of circulatory shock. The pulse ran high for ten days subsequently.

Anesthesia.—This was started with pure nitrous oxid, oxygen 2 per cent. being added after a few breaths and gradually increased to 6 per cent. Anesthesia was complete in about fifty seconds. Ether was now cautiously admitted. Apnea at once occurred, followed by profuse secretion of mucus, retching and slight vomiting; pulse more rapid, abdomen rigid. On stopping ether and increasing oxygen for a moment, former quiet anesthesia was restored. Apnea occurred at each attempt to add ether. Atropin gr. 1/100 was given to control mucus and as a respiratory stimulant. Owing to insufficient nitrous oxid to continue to the end of the operation, the patient was allowed to come out slightly and chloroform was administered by the open method for a few minutes to moderately profound anesthesia. Ether was resumed with 4 per cent. oxygen and a few breaths of nitrous oxid given from time to time when respiration lagged. Anesthesia continued uneventfully for two hours, extensive pelvic work being done through a second incision. Pulse varied from 100 to 120, being 114 at the end. There was prompt recovery without postoperative vomiting.

NITROUS OXID

While ether, either alone or as the terminal member of some sequence, will be the routine anesthetic, it is desirable to consider the properties of nitrous oxid.

MORTALITY RATES

The combined statistics of Julliard of Geneva and Ormsby of Dublin, covering 407,553 ether administrations, show a mortality of one in 16,302. For chloroform it is one in 3,162. Ethyl chlorid statistics are very scarce, but McCardie believes that the death-rate is about one in 3.000. Hewitt, in an extensive review, found only seventeen deaths directly traceable to nitrous oxid, recorded from 1860 to 1900. No deaths have been reported from nitrous oxid and oxygen. Ream. of Chicago, reports 30.000 administrations without a single accident; Teter, 12,000, 1,000 of these being for major operations lasting from one-half to three hours.

Nitrous oxid is therefore by far the safest general anesthetic known.

PHYSIOLOGIC ACTION

Nitrous oxid has a slightly sweet taste and its inhalation is accompanied by no unpleasant sensations. It produces anesthesia by *a direct action on the cerebral* cortex (Hare), though, when given pure, the anoxemia is probably a contributory factor. Complete anesthesia occurs in from fifty to sixty seconds and lasts for from thirty to fifty seconds. With oxygen the anesthesia can be prolonged indefinitely. Claude Lyons administered nitrous oxid with 15 per cent. oxygen to a dog for three consecutive days. Recovery occurred in fifteen minutes and there were no appreciable after-effects. Clinically, recovery occurs almost as soon as the mask is removed.

The anesthesia is much lighter than that of chloroform or ether and the patients are usually not so tranquil or completely relaxed. In favorable subjects, with proper percentages of oxygen, normal sleep is closely simulated. It is rarely followed by nausea or vomiting.

Careful studies by Kemp show that there is no direct effect on the heart and vasomotor systems, but here also a rise of arterial pressure is caused by the slight intercurrent asphyxia.

As the result of recent work concerning its effect on the blood, Hamburger and Ewing conclude that nitrous oxid produces no permanent or surgically significant changes, while ether and chloroform both produce slight anemia. Chloroform causes, in addition, hemolysis.

Respiration is primarily stimulated, but unless air or oxygen be admitted, it is secondarily depressed and finally ceases from muscular spasm. These phenomena are purely asphyxial and are avoided by suitable percentages of air or oxygen. Slight cyanosis is commonly an accompaniment of its administration, but is to be disregarded.

No changes in any of the body structures have been demonstrated. It has been thought that the use of this drug produces temporary glycosuria, but recent studies render this extremely doubtful (Hare).

INDICATIONS

It should be employed in all cases in which chloroform and ether are contra-indicated. Bevan urges its employment on account of its greater safety, absence of unpleasant symptoms, the little or no resulting nausea, and its rapidity of action. He asserts that it is the anesthetic of choice for the reduction of fractures and dislocations; for the opening of felons; for breaking up adhesions in joints; for draining empyemas and lung abscesses; for exploratory laparotomies and gall-bladder work; for nephrotomy, nephrectomy and nephrolithotomy; for bladder work, such as suprapubic lithotomy and prostatectomy; for draining appendiceal abscesses; for colostomy, gastrostomy and enterostomy; for the repair of typhoid perforations and for gastric and duodenal ulcers; in hernia operations, especially for the relief of strangulated hernia; for varicocele and open operations for hydrocele; in castrations; in amputations except at the largest joints; and in removing such growths as fatty tumors.

CONTRA-INDICATIONS

On account of its asphyxial tendencies with consequent venous congestion, increased blood-pressure, and muscular spasm, pure nitrous oxid should not be employed: in cases with narrowed or obstructed air-passages, as in association with hypertrophied tonsils, goiter, etc.; in cases with extremely bad hearts from either valvular or myocardial disease; in very young children; or in advanced arteriosclerotics.

These contra-indications may all be met by the administration of suitable percentages of oxygen.

ADVANTAGES

1 Safety at time of administration and later in absence of respiratory, circulatory, or nephritic complications or acid intoxication.

2. Rapidity.

3. Comfort of patient both in induction and absence of postanesthetic vomiting.

DISADVANTAGES

1. Narrow zone of anesthesia with consequent uncertainty of muscular relaxation and freedom from reflex movements.

2. Necessity of skill in administration. (This cannot be considered a valid objection.)

3. Cost of apparatus and of gases (from $4 to $6 per hour for the latter).

ADMINISTRATION

This is conducted by means of some form of special apparatus, the exact technic depending on the one employed. Satisfactory ones have been devised by Hewitt, Gwathmey, Cunningham; Teter, etc., the principle of all of them being the same. I employ Teter's.

Air is less applicable than oxygen for employment with nitrous oxid, on account of the large percentage of inert nitrogen which it contains. The administration is usually conducted with pure nitrous oxid for the first thirty or forty seconds, oxygen being then admitted and gradually increased. Generally speaking, from 4 to 6 per cent. of oxygen is applicable for men and from 6 to 8 per cent. for women and children, though the variations may be within wide limits, the indications being to avoid cyanosis and jactitation on the one hand and restlessness and talking on the other.

SEQUENCES

For routine use, I employ the nitrous oxid and oxygen-ether sequence. The advantages are as follows:

1. Greater safety than ether alone on account of lessened amount of ether inhaled and elimination of stage of excitement, in which many of the reported fatalities have occurred.

2. Saving in time, the patient being unconscious in forty or fifty seconds, and usually in third ether stage in three or four minutes.

3. Much pleasanter for patient in induction and in lessened postanesthetic vomiting. The latter is probably due to lessened swallowing of ether-laden mucus during induction.

4. With the Teter and Cunningham apparatus there is, in addition, less liability to ether bronchitis and

pneumonia and surgical shock on account of the inhalation of warmed and thoroughly mixed ether vapor; and lessened consumption of ether, owing to the inhalations only passing through it.

The nitrous oxid and oxygen-ether-chloroform sequence may be employed to eliminate the dangerous induction period of chloroform anesthesia, when it is desirable to employ that anesthetic.

SURGICAL PATHOLOGY OF THE PROSTATE

REVIEW OF 468 CASES *

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We have recently reexamined the specimens and reviewed the data from all cases of operations on the prostate in this clinic from Oct. 28, 1904, to June 1, 1911. The series, comprising as it does 468 cases, is large enough to warrant placing the observations on record for comparison with the conclusions of previous observers.

Since the publication of the studies of Young, Geraghty and Stevens in 1906, the only comprehensive memoir which has appeared is that of von Frisch, last year. Therefore, we have discussed elsewhere the subject of the prostate, some what at length, deeming it advisable to review therein the essential points in the anatomy and the physiology as well as the pathology of the gland. In thus adding to our own observations a somewhat full review of the data and discussions of others concerning the normal and the pathologic conditions of the prostate, we have hoped not alone to stimulate interest in this organ, but also to place in convenient form the more important facts and theories concerning it, as a basis for future studies. Herein we shall confine ourselves to a somewhat brief recital of the main points in our paper, referring the reader elsewhere for the more detailed discussion of them.

ANATOMY

During the third month of fetal life the mesoblastic tissue surrounding the lower ends of the Müllerian and Wolffian ducts becomes differentiated in association with a thickening of the wall of the primitive urethra. Simultaneous with this the epithelium of the sinus urogenitalis throws off three groups of buds (Pallin) on each side. These buds consist initially of solid cordons of epithelial tissue which penetrate into the annular mass of mesoblastic tissue surrounding them. The glands do not acquire a lumen until after birth.

Shape.—The prostate is, geometrically, an oblate conoid, flattened dorsoventrally, with its base upward and its apex resting on the triangular ligament. The transverse diameter is usually 1/5 to 1/4 more than the base-to-apex diameter of the gland.

Weight.—For comparative purposes, all adult prostates weighing under 16 gm. may be considered abnormally small, all weighing from 16 to 24 gm. normal in size, and all weighing 24 gm. or more as abnormally increased in size.

Subdivisions.—From the posterior aspects the prostate is a bilobular bilaterally symmetrical organ. In its posterior border is a notch, from which a palpable groove extends to the apex, marking the course of the urethra. The slightly convex lateral lobes lie to the right and left of this groove.

In our unabridged article we have discussed rather in detail and presented the illustrations of Tandler and Zuckerkandl's recent contribution on the important question of prostatic hypertrophy. In an especially adapted and extensive series of cases these investigators have demonstrated that hypertrophy of this gland always begins in the *middle lobe,* that total hypertrophy never exists, since atrophy is also present, and that the *surgical capsule* is composed of prostatic tissue. Consequently, prostatectomy is an *intraprostatic* procedure. Based on their observations, which showed that the hypertrophy always involved the portion of the prostate toward the bladder, Tandler and Zuckerkandl hold that operation through the bladder-route is the method of choice. A description of the technic from the anatomist's standpoint is also given.

The verumontanum, or colliculus seminalis, is a long elevation, about 3 mm. high, composed mostly of cavernous tissue and situated near the middle of the posterior wall of the pars prostatica urethræ. It declines at both ends, and on its anterior reclivity is a fine slit-like opening, the exit of the uterus masculinus.

The uterus masculinus is a pear-shaped, longitudinal pouch, extending upward and backward to the base of the prostate, and ending between the ejaculatory ducts. Normally it is 10 to 12 mm. in length, lined with mucous membrane and surrounded by a circular layer of muscle.

The ejaculatory ducts, which transmit the secretion of the seminal vesicles, pass obliquely through the prostate from above, opening into the pars prostatica urethræ dividing it into a proximal and distal portion.

Relations.—From a pathologic standpoint the more important relations of the prostate are the following: (a) the base is in intimate contact with the floor of the bladder; (b) the posterior surface is separated from the rectum by only sparse tense, cellular tissue, poor in fat; (c) the body of the gland embraces a considerable portion of the urethra (pars prostatica urethræ); (d) it communicates with the seminal vesicles and the ejaculatory ducts; (e) it likewise communicates through the vas deferens with the epididymis and the testicles.

Structure.—The prostate possesses a fine fibromuscular capsule of its own which is firmly adherent. It completely invests the gland, and sends a median septum inward, which surrounds the urethra and gives off a number of thinner partitions which divide the parenchyma of the gland into about forty lobules.

In addition, the organ is fixed in its position by fibrous tissue which has been designated by A. Retzius as the "ligamentum pelvio-prostaticum capsulare." This possesses partly the form of an envelope and partly the structure of band-like strips spreading into the enveloping portion and connecting the prostate with the pubis (the ligamentum puboprostaticum).

The visceral layer of the pelvic fascia, first described by Desnonvillers, is lifted up from the pelvic fascia laterally and posteriorly, appears as an application—Waldeyer—of this fascia, on the prostate. From this it passes over the bladder, enclosing the upper surfaces of the plexus pudendalis, the plexus vesicoprostatici, the seminal vesicles, and the ampulla of the ductus deferentes. Between the rectum and the prostate the sapsule is strongest.

The muscular element of the prostate is made up of unusually fine, unstriated fibers. The second sphincter muscle (sphincter vesicæ [Henle], sphincter prostaticus

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* Abridged from an article read in the Section on Pathology and Physiology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

* From the Laboratory Department, St. Mary's Hospital, the Mayo Clinic.

[Kohlrausch]) is formed of striated as well as smooth muscle-fibers. Striped muscle-fibers also pass between the two sphincters on the anterior surface of the prostate. In the interior of the gland the muscular element is a dense fibromuscular mass surrounding the urethra. Through this mass pass the prostatic ducts. Spreading out from it in all directions are muscular bands consisting of transverse and longitudinal fibers. While these usually follow the connective tissue framework, in many places they form by themselves the interalveolar septa without admixture with any discernible fibrous tissue. Here and there they form circular or looped structures which embrace the gland lobules. Frisch holds that it is the smooth muscle of the prostate proper which forms the sphincter vesicæ internus.

The parenchyma of the prostate consists of from fifteen to thirty-two distinct glandular systems, each opening by an independent excretory duct into the urethra. Some anatomists describe these gland units as terminal and others as an alveolar type. The terminal alveoli are found scattered throughout the gland, so that a section at any level shows both alveoli and ducts.

We have never seen a tunica propria about any of the alveoli, which agrees with the observations of other recent workers. Instead, the epithelium rests directly on the smooth muscle or fibrous connective tissue.

While in the alveoli of the adult prostate, a double layer of epithelium is frequently encountered, it is an open question whether such a formation is normal or not. Langerhans says: "In all alveoli a double layer of cylindrical epithelium is present."

The cylindrical epithelium lines the glands throughout except near the orifices of the ducts where transitional epithelium similar to that of the urethra is present.

Islands of lymphoid tissue are not infrequently found in the prostate. Weski, who has carefully studied these, notes their analogy to those found by Waldeyer in the dog's prostate. He mentions the possibility that the structures may be pathologic, but believes, on account of the entire absence of other evidences of inflammation in the same glands, and on account of the known presence of similar lymph follicles in other glands, that they may be considered physiologic.

The arteries arise principally from the inferior vesical artery. A few small branches also arise from the middle hemorrhoidal and internal pudendic arteries. They enter the periphery at numerous points, penetrate the gland and divide, forming a close capillary meshwork within the alveolar walls.

The veins form a rich plexus within the gland tissue and around the ducts. They emerge from the organ laterally and pass in part into the rich plexus within the capsule, and in part beneath the mucous membrane in the region of the orificium internum and the colliculus seminalis. Bordering on the anterior surface of the prostate, behind the ligamentum arcuatum pubis and under the edge of the symphysis pubis is the plexus pubicus impar, which receives not only the blood from the prostate, but also from the deep dorsal veins of the penis, communicates with trunks from the bladder, seminal vesicles and rectum and is continued as the prostatovesical plexus to the internal iliac veins.

The lymphatics form a wide-meshed network on the surface of the gland. Within the organ they are richest at the base and most sparse at the apex. Compared with the blood-vessels their course is surprisingly tortuous. The lymphatic plexuses on each side form two trunks, a superior and a lateral. The superior pass to the obturator lymph-nodes of the pelvis and the lateral to the internal iliac lymph-nodes (Sappey). The endothelial cells of the lymphatics are characterized by a very finely granular protoplasm.

The nerves of the prostate take their origin from the inferior hypogastric plexus of the sympathetic. The organ is richly supplied with nerves and contains, chiefly on its periphery, ganglion nodes, numerous isolated ganglion cells and a great number of variously constructed end-organs. As a delicate plexus they pass from the seminal vesicles. In this plexus are present fibers from the anterior roots of the third and fourth sacral nerves.

The nerve end-organs on the outer surface of the prostate have been known for a long time. In the mucous membrane of the pars prostatica, von Planner has found numerous bulbous nerve-endings which are situated in the more superficial layer of the membrane and which are sometimes plainly visible as elevations. The recent elaborate and painstaking studies of Timofeew have shown that the prostate contains a most complicated system of nerve-fibers and nerve-endings.

PHYSIOLOGY

In order to appreciate the physiology of the prostate three points must be considered: first, its function as a secreting gland; second, its muscular apparatus, particularly the sphincter formation; and third, its extraordinary wealth in nerve-fibers, ganglion cells and nerve end-organs.

As a secreting gland the prostate undoubtedly belongs to the sexual organs. The secretion of the prostate is a very essential factor of the spermatic fluid. Up to the time of puberty the gland undergoes a rapid growth and reaches its complete development only after that time. After the loss of the testicles in childhood the gland is arrested in its development; after castration of the adult it becomes atrophied.

Casper's work with dogs of the same litter showed that double-sided castration resulted in all cases in a marked diminution of the prostate and most decided changes in its glandular structure. Neusser notes that the persistence of the prostatic secretion, in many cases for a long time after castration, and the actual power of coition in the eunuch, which is lost only after years, indicate that an independent function must be attributable to the prostatic gland or to the innervating apparatus. Fürbringer has shown that the so-called "Böttcher" or "spermatic crystals" arise from the prostate. He succeeded in demonstrating the crystals by evaporation of the prostatic secretion secured from fifty-six autopsies (90 per cent.).

Besides the Böttcher crystals one finds constantly in the prostatic secretion large, colorless, moderately refractive, round granules. These produce the milky cloudiness and, judging by their reactions, consist chiefly of lecithin. The filtrate contains albumin but no mucin.

Spermatic crystals are not present in prostatic secretion secured by rectal palpation of the living. Ammonium phosphate, however, added to such expressed secretion causes the formation of the crystals. Fürbringer therefore concludes:

> For the formation of the Böttcher crystals observed in the ejaculated spermatic fluid, the secretion of the prostate affords the basic portion, whereas the phosphoric acid necessary thereto is contributed by the other components of the spermatic fluid.

In the dead body the post-mortem degeneration of the epithelium probably furnishes the necessary phosphoric acid. The characteristic spermatic odor is probably an attribute of combinations of the Schreiner base in dissolved form. Fürbringer demonstrated that the secretion of the prostate causes the normally motionless spermatozoa, as they are stored in the seminal tract, to become motile.

The descriptions found in the literature of the appearance of the prostatic secretion as clear, glossy, thready, etc., are incorrect, as Fürbringer explained. The secretion is a thin fluid of milky cloudiness, slightly acid or neutral in reaction and of a highly characteristic odor.

Percy has shown that spermatozoa quickly die in contact with uterine mucosa without the admixture of prostatic secretion, while in the presence of this secretion they remain alive three to eight days. Steinach has pointed out that simultaneous extirpation of the seminal vesicles and the prostate, while not interfering with the power of copulation, nullifies the capacity of begetting.

That the prostate possesses an internal secretion which acts on the external secretion of the testicles, vas deferens and the seminal vesicles, is strongly suggested by the work of Serralach and Parès. They found that after the removal of the prostate from dogs the secretion of all the sexual glands ceased, spermatozoa were no longer to be found and the testicles became atrophied. When injections of glycerin extract of the prostate were made after the prostatectomy, atrophy of the testicles did not occur, ejection remained, and spermatozoa were demonstrable in the ejection.

The arrangement of the smooth muscles of the prostate, longitudinally about the glandular tubules and circularly about the alveoli, is such that their contraction empties the gland of its accumulated secretion. According to Lusena, the quantitative relation of the muscles and glands of the prostate varies according to the age of the individual. In middle life the muscles and glands are present in the same amount. In old age the muscles are developed at the expense of the glands. Between 25 and 30 years of age the genital activity of the prostate reaches its highest point. Between 45 and 50 years the fibromuscular layer becomes relatively more extensive, a sign of beginning age.

The mechanism of the bladder closure and the emptying of the urine may be properly ascribed to the sphincters of the prostate, Rehfisch and Posner to the contrary notwithstanding. The closure of the bladder is cared for by the smooth sphincter internus muscle which remains in a state of tonus. This tonus must relax when there is need to pass urine and then the effect of the detrusor muscle comes into action.

Frisch calls special attention to the fact that while the unstriated muscles of the internal sphincter may be the usual mechanism for closing the bladder, yet the auxiliary muscles of the perineum can assist in producing the same effect by an energetic voluntary contraction, a fact which is important in prognosis after prostatectomy.

It is probable also that the numerous ganglia situated in the prostate and bladder hold an important function in the closure of the latter and in urinary discharge, and that these must be looked on as centers.

In regard to the nerves of the prostate all the motor and vasomotor fibers in the nervi erigentes and nervi hypogastrici, which arise from the inferior mesenteric ganglion, reach the prostate. Stimulation of the erigentes has a negative result, or, in the beginning, the excretion of a considerable amount of secretion, which is then followed by a cessation. On the contrary, stimulation of the hypogastrici produces a continuous, genuine secretion. If a cannula be introduced into the urethra in connection with a long upright tube, the level of the fluid mounts rapidly upward through stimulation of the nervi erigentes and sinks again downward as soon as the stimulation is suspended. Under similar conditions, if the hypogastrici be irritated, then the entire tube becomes filled and the fluid flows out from above. The erigentes, therefore, only press the secretion out of the gland, which secretion has been produced by the stimulation of the hypogastrici, so that these are the real secretory nerves. Stimulation of the central stump of one of the hypogastrici, with its fellow intact, produces secretion, and does this even when the inferior mesenteric ganglion has been separated from the remaining sympathetic fibers and, consequently, separated also from the central spinal cord.

PATHOLOGY

INFECTIONS OF THE PROSTATE

1. Acute Prostatitis.
    - A. Catarrhal.
    - B. Follicular.
    - C. Parenchymatous.

    (Segond's classification; also held by Guyon).
2. Chronic Prostatitis.

Etiology.—As idiopathic primary processes they are rare and, excepting as complications of gonorrhea, infrequent.

Causes attributed by various authors are: from without, injuries due to horseback riding, bicycle riding and similar exercises; from within, unsuitable introduction of instruments, too frequent and unclean catheterization, lithotripsy, abortive injections, too severe cauterization of the pars prostatica (especially with the pencil — Guyon), unnecessary duration of the self-retaining catheter, caught stones and foreign bodies, stricture of the urethra.

Disposing causes are: congestions and irritations in the rectum (hemorrhoids, foreign bodies, fissures, fistulas, proctitis and periproctitis), chronic obstipation, dysentery and enteritis, venereal excess, masturbation, coitus reservatus, metastases in pyemia, typhus, measles, small-pox, croupous pneumonia, parotiditis, influenza, tonsillitis, carbuncle, furuncle, phlegmonous angina, gout, syphilis, cystitis, stones in the bladder, prostatic hypertrophy, and infection by way of the blood.

By far the most frequent cause is gonorrhea. Prostatitis can follow not only every acute gonorrhea of the posterior urethra, but also every stage of chronic gonorrhea. The older the latter, the more frequently will the prostate be found diseased. Whereas the infection is usually from the posterior urethra, many admit its possibility from the anterior urethra—perhaps by way of the lymph channels. Opinions as to the frequency with which prostatitis follows gonorrhea vary within wide limits. These differences are explained as probably due to errors and difficulty in diagnosis; those holding high percentages including in their statistics the mild, but more frequent cases; and those quoting low percentages limiting their diagnoses to severe parenchymatous prostatitis alone. The weight of evidence, however, appears to favor the opinion that prostatitis is a frequent complication of gonorrhea.

In our series of 468 cases, seven were tuberculous. Tuberculosis of the prostate is principally a disease of the young adult, though our meager list of cases does not show it.

With regard to its etiology it is highly improbable that heredity is a predisposing cause, though it has been suggested by a number of observers. It is also unlikely that

These neoplasms may be present in the gland both primarily and secondarily. Cancerous and sarcomatous nodules—the latter by far the more infrequent form—have been observed in cases in which the primary foci were situated in various organs. The primary tumor has been found most frequently in the rectum, less often in the urinary bladder, the seminal vesicles, on the penis, in the stomach (Engelbach), the lungs (Fenwick), and the dura mater. Kaufmann held genuine metastatic growths of the prostate to be extremely rare.

Malignancy in the prostate is observed from earliest childhood to late old age. Carcinoma is more prevalent in the latter decades of life, and sarcoma in the beginning years.

Of our patients
1 was between 40 and 50 years of age.
9 (12 per cent.) were between 50 and 60 years of age.
29 (40 per cent.) were between 60 and 70 years of age.
30 (41 per cent.) were between 70 and 80 years of age.

The middle period is relatively free from malignancy in this organ. The youngest patients observed were children 6, 8 and 9 months old (Rose, Socin, Bree). Since, undoubtedly, the beginning of development is to be dated much earlier, Klebs held as not unlikely that the process may at time be referred even to the intrauterine period of life.

Pathologic Anatomy: Of the seventy-three cases, fifty-one (69 per cent.) showed marked glandular hypertrophy, as was evidenced microscopically by papilliferous projections into the acini. In thirty cases (41 per cent.) there was definite muscular atrophy, and in sixty-one cases (83 per cent.) the fibrous stroma was increased. In ten cases (13 per cent.) there was no evidence of associated hypertrophy in the sections examined from the glands, leaving 87 per cent. in which there was evidence of hyperplasia. Whether in these cases the hypertrophy was primary and the carcinoma implanted thereon, it was impossible to determine, though in many *microscopic sections the apparent transition by almost* imperceptible variations from simple hyperplasia to undoubted carcinoma was observed.

Usually one can be moderately certain of the cancerous nature of the tissue on gross inspection alone. When the operator's knife, in making capsular incision, cuts through tense tissue which does not bulge, the edges of which are firm and ridged, suspicion should be at once aroused. It has been our experience that carcinoma in no tissue, with a possible exception of small tumors of the breast, removed at the surgical clinic was more apt to escape diagnosis grossly than that of the prostate, so that it is our inevitable custom to make frozen sections from various areas of the removed gland and report to the surgeon while the operation is in progress.

Etiology: The etiology of carcinoma of the prostate is completely unknown as is that of carcinoma elsewhere. Albarran and Hallé insist on a definite relationship between prostatic hypertrophy and carcinoma. Among eighty-six hypertrophied prostates they found, in twelve, changes in the epithelium, which they thought to be different grades of carcinomatous degeneration. When one considers the difficulty of accurate diagnosis, however, especially in cases of carcinoma of the prostate, all such instances as the above must be regarded with some suspicion, unless all of the tissue of the prostate was removed at the original examination and a careful microscopic investigation made thereof.

While we may consider it fairly well established that isolated epithelium, whether from inherent or external stimuli, exhibits a tendency to proliferate and infiltrate, and while the observations of many workers record series of pictures such as those described by Albarran and Hallé, yet we must be conservative in our interpretation of these *apparent transitional stages* of hyperplasia into carcinoma. Likewise, we must examine most critically all clinical data, such as the observations of Prédal and others, suggesting the same line of development.

Metastases: Many prostatic carcinomas show a marked tendency to seize on neighboring structures, particularly the floor of the bladder, seminal vesicles and rectum. The lymph-glands in the region of the prostate are the first to become infiltrated with cancer. After that, the retroperineal and inguinal glands become involved. Metastases to distant organs are common, and should always be as carefully as possible excluded in clinical examination before operative procedure. They are frequently present in the lungs, liver, spinal column and long bones. Von Recklinghausen, Sasse, Brown, Kolisko, Frisch and others have emphasized the importance of *seeking for small carcinomata in the prostate, breast* or thyroid in cases in which extensive metastases in the bones have been found at autopsy. Von Recklinghausen says:

> If, in the female, cancer of the vertebra breaks forth with unspeakable pain, as a rule, one does not err if he assumes the original focus to be in the breast. In such cases the primary focus may reach only to a very small size.

Frisch says:

> Perhaps just as frequently may the causative rôle for general carcinoma in man fall to the lot of prostatic cancer as to the lot of the breast-gland cancer in the female. We know how difficult it is to recognize prostatic cancer with the naked eye, how little it destroys the tissue, how very much more it tends to produce induration so that only the typical involvement of regional lymph-glands discovers and facilitates the diagnosis.

As prostatic sarcomata develop they involve the bladder wall and neighboring structures. The neighboring lymph-glands are usually affected, but distant lymph-glands rarely. Metastases to other distant organs — lungs, liver, etc. — are also uncommon, though instances have been reported.

With regard to the histologic type of tumor, the round cell is the most common, and after this the spindle cell. Angio-, lympho-, myxo-, adeno-, enchondro-, leiomyo-, and rhabdomyosarcomatous forms have also been reported.

In concluding this incomplete review of an important subject, we trust, that, at least, our aim to stimulate keener interest in the study of the prostatic gland has been successful. It is a regrettable fact that many otherwise well-informed physicians seem to be almost unaware of the existence of this organ. At least they are prone to ignore its rôle in the production of a train of symptoms which they frequently ascribe to a "weak bladder" or "kidney disease." Often patients die of the sequelæ of prostatic hypertrophy, or directly from prostatic carcinoma, without ever having had a rectal examination. Patients have been operated on for chronic appendicitis when their symptoms were really due to carcinoma of an unexamined prostate. In every case of gonorrhea in the male the possible involvement of the prostate should be remembered and the patient warned, at the time, of the troubles probably in store for him in the future.

A rectal examination should be a routine procedure with all males presenting themselves for diagnosis of *obscure abdominal as well as genito-urinary troubles.*

A CASE OF HYPERIDROSIS UNIVERSALIS WITH CONTINUOUS FEVER*

HENRY HERBERT, M.D.
LOS ANGELES

History.—The patient, E. Gr., 22 years of age, clerk, is the only child of his parents, who are living and healthy. As a child he had measles and some lung disease, otherwise he was healthy up to the age of 12, when his present ailment of constant sweating commenced. He lived formerly in the Middle West, came four years ago to Los Angeles, worked three years as a bell-boy in a hotel and has for the last year acted as bank messenger, having sought the occupations of bell-boy and clerk as being most suitable for his condition.

He perspires continually and the perspiration stops apparently only when he is in fresh air or in a draft; during sleep it stops only when he is exposed to a draft and fully uncovered. His perspiration increases indoors, in the theater, in church or by sitting still, and by exposure to the sun; he perspires also during rain or snow; his condition is aggravated after meals, after drinking cold water or warm drinks. His appetite is and always has been good, but he drinks a great deal of water. His bowels are regular; he looks normal and healthy. A peculiarity about his sweating is that the suprascapular and occipital region of both sides remain always dry (anidrosis).

His weight has for the last two years been about 120 pounds; for four years his temperature ranged from 99 to 102 F., and the following data were recorded by me at various times:

		Temp. F.	
Feb. 6, 1909,	2 a. m.	99.4	
" " "	8 a. m.	99.2	
" " "	3 p. m.	100.0	
May 1, 1909		99.6	
June 1, 1909,		101.0	
Sept. 28, 1909		99.2	
February, 1910		99.2	
March, 1910		100.4	Pulse, 96-120
May 26, 1911		99.8	Pulse, 108
June, 1911		99.0	Pulse, 96

He complains of weakness, inertia and nervousness; on deep inspiration he has vertigo; in throwing back his shoulders he feels numbness and formication over the dorsum of the two last fingers of both hands. Occasionally, he sees black spots dancing before his eyes, becomes dizzy, and in the past has had attacks of amaurosis. His knee-reflexes in 1909 were hardly perceptible. They are promptly elicited in 1911.

His blood was examined May 5, 1909, by Dr. Eleanor Seymour of Los Angeles, and revealed the following interesting facts:

Hemoglobin	90	per cent.
Red blood-corpuscles	6,040,000	
White blood-corpuscles	10,280	
Neutrophils	53	per cent.
Lymphocytes	21	per cent.
Eosinophils	14.5	per cent.
Large mononuclears	10	per cent.

Quite different are the findings by Dr. D. C. Ragland, of Los Angeles, June 28, 1911:

Red cells	5,700,000	
White cells	7,600	
Polymorphonuclear leukocytes	48	per cent.
Small lymphocytes	38	per cent.
Large lymphocytes	9	per cent.
Eosinophils	3	per cent.
Mast-cells	1	per cent.

Examination.—The ophthalmic and cutaneous tuberculin tests were negative. The examination of the urine proved to be negative; chest and abdomen apparently normal. On pressure over transverse processes of the sixth or seventh vertebra of both sides, I elicited considerable pain in the patient.

Pressure on the third sympathetic ganglion, or irritation of it causes hyperidrosis; paralysis or destruction of it causes anidrosis. In our case we had hyperidrosis, probably due to pressure, and partial anidrosis, probably due to paralysis of the respective nerves.

Profuse sweating has been caused by irritation of the cervical sympathetic in animals. According to Riehl, hyperidrosis may just as well be explained by the irritation of the vasodilators as by paralysis of the vasoconstrictors.

Friedlander reports observations by others of unilateral hyperidrosis, in diabetes mellitus, in general paralysis, temporary dementia, in mental diseases, in hemiplegia, in tabes, etc.

Many cases of unilateral hyperidrosis have been reported in otherwise healthy persons. In some individuals, hyperidrosis universalis occurs often, but only for a brief period; in others it is habitual and continuous. As a morbid function of the skin it usually lasts many years and is found almost exclusively during middle life. The immediate cause of the hyperidrosis is always located in the capillaries of the integument, especially of the coil glands and papillæ.

These conditions are regulated by the vasomotor (sympathetic secretory) nerves. We may thus understand how a profuse secretion of sweat, either general or local, may appear under the influence of mental excitement, fright, confusion, or local pains, as the result of a stimulus which is either reflex or starts from the central organs. This has also been shown experimentally. On making a section of the cervical sympathetic, Claude Bernard found that the vascular paralysis was associated with profuse perspiration in the paralyzed parts.

In one case of hyperidrosis of the left side of the body, Frankel and Ebstein found stasis of blood-globules in the vessels of the corresponding cervical sympathetic. In one case, which affected the left side of the head, Riehl noted, in addition to the same findings in the vessels, interstitial cellular infiltration of the superior ganglion of the cervical sympathetic.

Disturbances in the sympathetic of the neck are still obscure, and most of the lesions described in literature are spoken of as lesions of the sympathetic of the neck. Such lesions, affecting probably the superior ganglion or the whole length of the sympathetic, must differ in their clinical manifestations from isolated or strictly localized lesions. It seems that in the present case there is no disturbance of the superior or middle ganglion as the respective ocular symptoms are wanting. On the other hand, it has been proved experimentally as well as by autopsy that lesions of the inferior ganglion may produce symptoms as present in that case. In general, we will find lesions of the inferior ganglion produced by exostoses, aneurysmal tumors pressing on ganglion, or by inflammatory conditions in and around the ganglion.

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ABSTRACT OF DISCUSSION

Dr. James T. Fisher, Los Angeles: I had the pleasure of examining this gentleman in my office a year or year and a half ago. He attracted a great deal of attention and the case was brought before our county medical society. At the time I examined him his physical condition was absolutely negative with the exception of the symptom that you see here—the sweating. His pupillary reaction was normal; his knee-jerks were not normal. In view of the fact of his age, and various factors which I will not go into, to me it is fairly evident that this man is suffering from an ordinary form of hysteria, and I am not inclined to think that it is other than that. Perhaps you will say that that does not explain all of his symptoms. Even so, I cannot account for this condition except as coming under the general classification of ordinary hysteria.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911

Dr. Harold N. Moyer, Chicago: This appears to be a new find, or is at least a very rare symptom-grouping. With such exceptional findings a certain degree of modesty in suggesting a diagnosis is becoming. There are certain salient symptoms which are not explainable under any theory that I know of regarding the association of symptoms: First, the sweating; second, the presence of six million red cells; third, a marked eosinophilia; and fourth, a persistently elevated temperature. These make a symptom-grouping that I have never seen associated. The case presents a new combination of symptoms, and possibly a new disorder.

Dr. George A. Moleen, Denver: I have been very much interested in this case, but from the start it appeared to me on a functional basis. Someone has said that nothing could be present in hysteria but what could be produced by suggestion. I would like to ask if suggestion has been used in this case as a means of differential diagnosis. It has come within the experience of men who have used hypnotic suggestion that it is quite easy to produce either localized or general sweating to influence the temperature and produce other changes of equally remarkable natures. However, that would not account for the blood changes which occur in this case. The absence, however, of organic symptoms, or symptoms of tissue change, and the fact that the functional disarrangement which would produce or lead to the sweating can be reproduced by suggestion, lead me to believe that it is on a functional basis.

Dr. F. E. Murphy, Kansas City, Mo.: May I ask when this estimate of eosinophils was made?

Dr. Henry Herbert: Last year.

Dr. F. E. Murphy: Fourteen per cent. of eosinophils is certainly a symptom that necessitates some consideration. It would be interesting to know the percentage of eosinophils at this time. Possibly a year ago there was an intestinal parasite or something of that sort giving eosinophils. It would be interesting to know at this particular time how much the symptom observed a year ago is evidenced. There is one feature I observed, and that is the condition of this boy's vascular system. Several of us palpated his blood-vessels, and there are certainly marked changes in them. I am disposed to believe that there is something more than functional trouble in this instance.

Dr. Henry Herbert, Los Angeles, Cal.: The temperature was taken regularly and always by the mouth for a period of from two to five minutes. Suggestion has not been used in this case. In regard to the eosinophils, that suggestion of reexamining the blood of the patient is a very good one. I am at a loss to say what the diagnosis is. One interesting feature leads me to believe that it is a lesion of the third sympathetic ganglia: first, the intense pain on pressure; then, the accepted rule, or accepted experiment or experience, that irritation of the sympathetic ganglia, especially of the third on one side shows a unilateral sweat, whereas the paralysis of that center shows anhidrosis. Now, we have general sweating on both sides, pain on both sides on pressure over the third sympathetic ganglia. At the same time, over that ganglia in that approximate region, or the region which is supplied by the approximate nerves, there is anhidrosis—no sweating at all. That would indicate a general irritation of the sweating center and a paralysis of those nerves supplying that area—the suprascapular region. If there is any process, fibrosis or chronic inflammation, to furnish the ganglia with some pressure, that would account for that anhidrotic area, and at the same time irritation of the entire sympathetic ganglia. The symptom-grouping, as one of the speakers mentioned, with the eosinophils, speaks against the supposition of a functional disorder or hysteria. I think that symptom is based on a permanent disorder, probably a disorder of the nervous system

HOW OUR THERAPEUTICS CAN BE IMPROVED *

BOARDMAN REED, M.D.

LOS ANGELES

Tremendous advances have been made in therapeutics during the past two decades, advances which it is needless to enumerate to educated medical men. But there remains yet room for improvement. There are still failures in treatment, many of which could be avoided by a more perfect mastery of all the conditions which confront those charged with the high duty of endeavoring to heal the sick. This can be attained only by raising the standard of the doctorate to a yet higher plane, so as to assure for every practitioner a better knowledge of all that pertains properly to the science and art of healing and the auxiliary medical sciences, together with clinical experience under instruction. Such a training with industry and patience would assure an accurate diagnosis in every case in which such a diagnosis is practicable, followed by the best possible treatment.

Improvement must result from a more thorough study of (1) man and his organs and functions in both health and disease, including especially diagnosis; (2) a more intimate acquaintance with all the reliable remedies, medicinal, mechanical and psychologic from whatever source, a knowledge which shall recognize the fact that the more active ones seem to be capable of exerting either of two opposite actions according to the dose.

A very large proportion of the failures in treatment, whether made by regulars, sectarians, quacks, counter-prescribers or self-dosers, is due to a wrong diagnosis. No method of treatment is likely to prove helpful when prescribed in the wrong case; very frequently then it does harm. Innumerable patients die because the diagnosis is made too late, the medical attendant not having obtained needed counsel in time. Other failures and often much mischief result from continuing too long and in large dose a remedy which may have done good at first. Sometimes the failure is in consequence of too small a dose having been prescribed. I have seen cases of hyperchlorhydria and ulcer of the stomach or duodenum aggravated by 10- or 15-gr. doses of sodium bicarbonate and yet afterward promptly relieved and finally cured with the help of teaspoonful doses of the same drug well diluted and combined, when necessary, with 30 to 40 gr. of bismuth.

On the other hand, while drop doses of the wine of ipecac will relieve some forms of nausea, and severe vomiting often yields to drop doses of Fowler's solution, *à la* Ringer, and a threatened miscarriage is stopped by the tincture of cimicifuga every hour in the same small dose, as I frequently proved in my general-practice days, any one who would try these medicines in the usual doses in such cases would surely aggravate them.

Evidently, then, it would be a gain to our therapeutics if medical students were plainly taught that tissue-disturbing drugs are capable of producing opposite effects according to the dose. This was demonstrated to my own satisfaction twenty-three years ago by a careful study of the elaborate reports of numerous experiments conducted by eminent pharmacologists in England and Germany especially. My conclusions, though questioned, have never been refuted. They were published first in the *Practitioner* (London), and afterward in this country. In a large experience since 1888, they have been amply confirmed. The matter was summed as follows:

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

1. A relatively small dose always at first stimulates the parts (nerve-centers, nerves, glands, muscles, membranes or other tissues) which the drug specially affects.

2. A sufficiently large dose (pushed far enough) always finally paralyzes the parts which the drug specially affects.

3. A moderate or medium dose may first stimulate and afterward depress, finally paralyzing if repeated often enough.

Lauder Brunton was quoted in the same paper as having stated in his "Pharmacology" that "this opposite action of large and small doses seems to be the basis of truth on which the doctrine of homeopathy was founded," following which he proceeded to criticize the fallacies of Hahnemann.

But after all, the most important point in therapeutics is to have a correct, an exact and also an early diagnosis. Thousands of persons are to-day taking hydrochloric acid and pepsin or some other exciting digestive aid for that vague entity, "stomach trouble," when the proper examination would show hyperchlorhydria or ulcer which could only be made worse by any form of acid. Nearly as many more are being dosed with alkalies when they need a contrary line of medication. Still others, suffering from a ptosis of one or more of the abdominal viscera—and their name is legion, especially among the women—are receiving various lines of treatment from drugs to osteopathy and from Christian Science to a four-weeks' fast with no possible benefit, when most of them would be relieved at once by having their displaced organs replaced and held up thereafter by either an operation, or, as I have seen in hundreds of cases, by a properly fitted abdominal supporter.

Instances could be multiplied indefinitely of failures in cases in which the diagnosis was in doubt, and yet, no consultation was had for economic or other reasons. Being no longer an aspirant for practice, I can afford to speak plainly and condemn strongly any guessing or prolonged dilly-dallying about the nature of an obscure illness whenever a consultation would probably clear up the doubt. When in such a case the patient or family refuse a consultation, the attendant would be justified in retiring from it. When, on the other hand, the family ask for a consultation and the medical attendant objects, he could have no cause for complaint if asked to make way for a broader-minded man.

Probably in no other feature is the usual current therapeutics more open to improvement than in the treatment of constipation. No affection is more common among civilized people and none is more generally treated ineffectively. The resort to purgative drugs for sluggish bowels is well-nigh universal. Patients rarely seek medical advice for the trouble early but dose themselves with laxatives till it has become chronic and aggravated. Even then, they will not often accept any curative treatment which involves time and expense, such as a course of massage, electricity or mechanical vibration (especially intra-rectal), some one of which, or a combination of them, nearly always proves effective in skillful hands, with the indispensable laxative diet and regulated exercises, often even in chronic advanced cases. Doctors should warn such patients emphatically that neither purgatives nor the milder laxatives ever cure constipation, and that, when continued very long, they may render it incurable by any method.

The diet in most chronic affections is a factor of the very greatest consequence. A more thorough study of dietetics would immensely improve the therapeutics of the average practitioner of whatever school or system.

The modern exact methods in the diagnosis and treatment of gastro-enteric affections should receive more attention in our medical colleges. If every practitioner were required to master them, or not having done so, would seek help from specialists in that line, not only in his frankly stubborn abdominal cases, but also in countless other obscure affections, he would very often be helped sooner to find the key which would solve the difficulty and obviate a harmful prolonged dependence on hypnotics or other inappropriate drugs.

While iron and arsenic will generally cure anemia after the cause has been removed, quinin and arsenic nearly always cure true malaria, and mercury and the iodids have rarely failed to rid the system in time of syphilis, to say nothing of salvarsan, it would be well if everybody, including practitioners of all sorts and the laity, could be impressed with the fact that many of the most powerful remedies are capable of doing harm in large or long-continued doses and that their safe and useful employment is often limited to the tiding over of emergencies or crises or the relief of intolerable pain, and that the cure can usually be accomplished only by a removal of the cause. In a very large proportion of chronic cases at least, the cause is some violation of health laws which demands a radical change in the patient's habits. Much of the present ineffective therapeutics results from attempts to cure people of maladies while they are continuing the bad habits which caused them.

No one can set bounds to the possibilities which may develop from the many new lines of treatment recently introduced, the antitoxins, the internal secretions from various glands, etc. The results already achieved with them afford great hopes for the future of therapeutics.

After all, however, our best and most permanent cures will not result from drugs or other special lines of treatment alone, but from supplementing these by hygienic measures, by inducing our patients to live regular and temperate lives, eating and drinking simply and never to excess, chewing all food thoroughly, taking sufficient exercise and sleep, spending as much time as possible out in the open air and sunshine and, through abundant ventilation night and day, breathing pure air whenever practicable.

South Granada Avenue.

CARCINOMA OF THE CLITORIS *

CHARLES D. LOCKWOOD, M.D.
PASADENA, CAL.

Tumors of the clitoris are of infrequent occurrence, and malignant tumors are rare. The histopathologic study of these tumors has been neglected, and many of the reported cases are not accompanied by a pathologic report. I wish to report a case.

Patient.—Mrs. K., aged 70, mother of two children, healthy, except for her present complaint. For six years she has suffered from painful micturition and irritation about the vulva. For the past year the pain on urination has been almost intolerable. She would refrain from micturition as long as possible, and then lie on her abdomen to urinate in her effort to assuage the pain. Treatment for vaginitis and irritating urine had only partially relieved her pain.

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* Read in the Section on Obstetrics and Gynecology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

* Because of lack of space the review of the literature is here omitted. It is given complete in the Transactions of the Section.

Examination.—Labia minora edematous and pale. At the site of the clitoris and to the right was a small, angry-looking, oblong mass, about 2 cm. long by 0.5 cm. in breadth. This mass was ulcerated at two points and necrotic, and intensely sensitive. Urethra, vagina and uterus were normal; urine normal; no palpably enlarged glands.

Operation.—Wide excision of labia minora and tumor mass in the region of the clitoris. Tissues were dissected down to the periosteum of the pubic bone. Urethra left intact. There was free hemorrhage, requiring many ligatures. Wound closed with buried catgut and kangaroo tendon, permanent catheter in bladder.

Postoperative History.—Wound healed without suppuration, and with complete relief of symptoms. Pathologic report showed epithelioma of the clitoris. Eight months later, the patient returned with enlarged inguinal lymph-nodes. These were removed, and microscopic examination showed metostatic growth of the same histologic character as the tumor of the clitoris. After a short period of freedom from pain, the deep inguinal lymph-nodes and those lying along the deep saphenous vein became involved. The entire right leg became edematous, there was rapid emaciation, and death occurred two years after first operation. No autopsy.

The appearance of epithelioma in this region is quite characteristic. Occupying the site of the clitoris is an intensely red, angry-looking, oblong tumor. There are irregularly shaped ulcers, with indurated base, elevated above the surrounding tissues, and varying in size from a ten-cent piece to a dollar. The surfaces of these ulcers are covered either by necrotic sloughing tissue, as in my case, or by fleshy granulations which bleed easily. The borders of the ulcer are hard, elevated, uneven, and covered with granulations. The edges of the ulcer are sharply cut, rose-red in color on their inner aspect, and covered with scabs at their periphery.

ETIOLOGY

Irritation plays an important rôle in the production of cancer in this region as in other parts of the body. Among predisposing causes are, psoriasis and pruritus vulvæ, pregnancy, injuries and cicatrices of labor, irritating discharges, eczema, syphilitic ulceration and inflammatory conditions in the surrounding tissues.

CLINICAL COURSE

Epithelioma in the region of the clitoris gives rise to few symptoms and signs in the early stages. At first, there is slight burning and pain on micturition, but these symptoms are in no way characteristic, and might be due to cystitis or caruncle. As the ulceration extends, pain increases, and there is often a foul discharge with the characteristic odor of cancer. Glandular involvement is late, affording a good prognosis if removal is early and complete.

In my case, there were no palpable glands, and yet recurrence took place in eight months. Future operations for malignancy in this region should follow the rules governing the surgery of epithelioma in other regions, i. e., early and complete extirpation of the tissue involved, with all glands receiving the lymphatic drainage of the area.

Sectarianism.—"Do not give yourself up rashly and blindly to any sect. Sects are implacable despots; to accept their thraldom is to take away from one's actions and thought all liberty."—*Saying attributed to Nicon, father of Galen.*

ISOLATION OF BACILLUS TYPHOSUS FROM A WELL

D. M. LEWIS, M.D.
NEW HAVEN, CONN.

According to Chapin, typhoid fever organisms have been identified in drinking-water by the agglutination tests but four times, as quoted from Gotschlich, and since by Wesbrook from the Mississippi River, and by Fox from the Scranton reservoir.

To these six I would add another. On June 28, 1911, I received two specimens of water for analysis from a country home from which a maid had been removed to the hospital that day as a case of typhoid fever. May 11, 1911, she had been sent there to open the house for occupancy; she began to feel ill June 19, and went to bed June 24. The supply of drinking-water was from a bored, stone-laid well of approximately 20 feet depth, subject to the surface wash of the cellar floor. From April 15 until May 15 laborers were at work on the premises, cleaning the well on the former date. The maid and one other did not leave the premises at all during the period stated, and on May 16 the family of ten arrived for the season. Stored in the cellar were several barrels of cider, which later showed evidence of having been freely tapped by the laborers. There was no record of previous typhoid on the premises, or of any association of a typhoid patient or carrier with the household. The bath-room and all taps were supplied from a large storage tank filled from a distant artesian well.

The two samples of water sent in were not labeled, and while identified by me as quart milk bottles with different dealers' stamps, were identified by the sender as one with a partial crack due to sterilizing, and one not cracked. The former showed chlorin content of 1.9 gr. per gallon, absence of nitrites, less than 0.1 gr. per gallon oxygen consumed in fifteen minutes at 212 F., and a negative presumptive test for colon bacilli in lactose-bile with 10 c.c., 1 c.c. and 0.1 c.c. at seventy-six hours. Plates, lactose-bile-agar, in duplicate, showed 1,000 odd colonies after forty-eight hours, the greater proportion microscopically resembling the colon-typhoid group; morphologically a motile Gram-negative cocco-bacillus, not producing gas in dextrose or lactose media, and tested against three serums of known typhoids, gave a reaction in all three in one-half hour, dilution 1 to 100; against the dried blood of six suspects, gave the reaction (approximately 1-to-40 dilution) in but one, as was the case with the stock typhoid culture. Since, I have used it parallel to a stock culture in upward of fifty bloods, and in one case obtained a reaction from a dried blood at the seventh day, whereas the stock culture gave it only at the tenth day.

The other sample showed a chlorin content of 1.5 grains, absence of nitrites, oxygen consumed less than 0.05 and a negative presumptive colon test. Plates in duplicate showed 120 and 128 colonies, none suggestive microscopically of the colon-typhoid group.

While the first sample was identified as that from the bottle with the partial crack, and, according to the sender, as from the well, to be absolutely sure, duplicates properly labeled were sent for identification on June 30, together with a spring-water sample from a source near the lodge of the premises. The chlorin content and the oxygen consumed identified the samples, yet more surely plates revealed in duplicate the situation above stated, though somewhat less typhoid organisms in the later sample. It was quite definite that the sample that showed the typhoid bacilli was from the house well, and considering the chemical partial analysis and the negative colon test, it seemed very reasonable that urine could be the only condition giving rise to the situation.

With the vaccination of the entire household and nothing further transpiring after three months, and with the above record, I consider that I am justified in assuming the contamination of the well by some of the laborers mentioned, and that the contamination was urinary in origin.

193 York Street.

REBREATHING IN ANESTHESIA

(Concluded from page 1599)

ABSTRACT OF DISCUSSION

ON PAPER OF DR. GATCH

Dr. Yandell Henderson, New Haven, Conn.: It seems to me dangerous to have a man breathe for any length of time through a long tube in that way. Too much stress is laid on various fixtures; there seems to be too much ventilation. We used to think we should give the patient plenty of oxygen; this apparatus is designed to keep carbon dioxid in. We already have a tube, the trachea. A man told me this morning of a case in which the trachea and blood-vessels were cut and as soon as he sewed up the trachea the man began to breathe normally. That shows that in order to keep a man breathing vigorously he must breathe through a tube, and Nature provides it. When a man breathes through his mouth he gets more ventilation than when he breathes through his nose. Carbon dioxid is a diffusible gas; if the skin is off and there is congestion and disturbed vascular conditions it is because of the absence of carbon dioxid; if carbon dioxid is put over the surface these changes do not occur. We do not draw fresh air into our lungs. It would be the simplest matter in the world for Nature to have devised a mammal as a long breathing animal in which the lungs collapsed every time; it would be a simple matter for the thorax to go down until the lungs collapsed completely; then when we took a respiration we would draw fresh air in. But it does not work that way; to a large extent it is an effort to prevent carbon dioxid from getting out rather than to get oxygen in.

Dr. J. F. Hultgen, Chicago: The case Dr. Henderson referred to came to me accidentally. There being no surgeon around, no one but interns, I had to sew up the man's trachea, which he had cut with suicidal intent. He was fainting from lack of blood when he came to the hospital. The man coughed and sputtered around on the table and so we anesthetized him through the tracheal opening. His breathing was very shallow, and I had an intern stand with a stethoscope to hear if the heart was beating (it had been suggested that we let the man alone, as he would die anyway). I put in two or three sutures on either side, not touching the cartilage, and as soon as I had these sutures in I had the intern tighten them, he holding them on one side and I doing the same on the other side, thus approximating the two ends of the trachea. As soon as we did this, the up and down movements of the chest became very extensive—more so than normal. It seemed to me this might be made use of in a great deal of thoracic work and lung surgery; that artificial tracheotomy of this sort might be advantageous. This was such a remarkable case that the nurses and those around were called to witness it. The author has brought up an interesting point about anesthesia. When I was an intern we used to give the anesthetic with a cone; we had the patient sleep for hours with this cone, pouring in a dram or two of ether at a time. The carbon dioxid theory of Dr. Gatch I think offers a good interpretation for this.

Dr. W. D. Gatch, Baltimore: I do not oppose the use of the old-fashioned etherizing cone. It can probably be used so as to meet the physiologic requirements more nearly than an open mask.

REJUVENATION OF CULTURES OF TISSUES *

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NEW YORK

The duration of the life of cultures of tissues, up to now, has been very brief. In approximately from three to fifteen days after the preparation of the culture, the growth becomes progressively less rapid until it stops altogether. Following this, the tissues die and the cells disintegrate.

It may easily be supposed that senility and death of tissues are not a necessary phenomenon and that they result merely from accidental causes, such as accumulation of catabolic substances and exhaustion of the medium. The suppression, then, of these causes should bring about the rejuvenation of the arrested culture and thus increase considerably the duration of its life. As it would be important, for many reasons, to keep tissues alive outside of the organism for a long period of time, I attempted to develop a method for the rejuvenation of the cultures of tissues.

The rejuvenation consists in removing from the culture substances that inhibit growth and in giving to the tissue a new medium of development. It is accomplished by extirpating with a cataract knife the fragment of coagulated plasma containing the original piece of tissue and the surrounding new cells, which are washed for several minutes in normal or slightly hypotonic Ringer's solution.

Afterward, the fragment is placed in a hypotonic medium composed of three parts of normal plasma and two parts of distilled water. The time of rejuvenation is chosen before the appearance of the changes of senility or when they are just beginning to appear. The process described is repeated more or less frequently according to the rate of the growth and the condition of the cells.

The results of rejuvenation were studied on cultures of connective tissue. The original connective tissue was taken from the spleen, the skin, the pericardium, and the portal vein of sixteen- to twenty-day-old chick fetuses. The first rejuvenations were made when the cultures were still in the period of full growth or at the beginning of the declining period. A few hours after the passage into the new medium, elongated cells or chains of cells radiated through the plasma, and the growth went on rapidly. The washing and passage into new media were repeated when the rate of growth decreased or when large granulations appeared in the cytoplasm of the cells.

Many of the cultures were rejuvenated five, six, seven, eight and even nine times. It was observed that after the seventh or eighth passage, fusiform cells appeared in the new medium as rapidly as after the second or the third passage. Thus, the occurrence of senility in these cultures was prevented and the length of their life very much prolonged. A culture of portal vein after the ninth rejuvenation is still growing actively on the thirty-first day of its life outside of the body.

These results demonstrate that rejuvenation of the cultures of tissues is possible. They show also that, under the conditions and within the limits of the experiments, senility and death are not a necessary, but merely a contingent, phenomenon.

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* From the Laboratories of the Rockefeller Institute for Medical Research.

THE INFECTIVITY OF THE SECRETIONS AND THE DESQUAMATING SCALES OF MEASLES*

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AND
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I.—SECRETIONS

In a previous communication[1] we reported two experiments with nasal and buccal secretions from cases of measles. In the first experiment we inoculated three monkeys with secretions obtained from a patient about twenty-four hours after the first appearance of the eruption. None of these animals gave any recognizable evidence of a reaction. In the second experiment we inoculated monkeys serially with secretions obtained from a patient on each of three successive days, beginning with the appearance of the eruption. The results of these serial inoculations, checked by passage experiments, clearly demonstrated that the mixed buccal and nasal secretions in this case were certainly infective at the time of the beginning rash and again forty-eight hours later. After the publication of these results an opportunity to carry our experiments further and, if possible, to determine the duration of infectivity of the secretions, presenting itself, we made inoculations from five additional cases at various periods of the disease.

In each case the secretions were obtained by irrigating the nose and mouth with saline solution and the inoculation was made by injecting beneath the skin of the ventral aspect of the thigh. As a rule, an abscess would form within twenty-four hours and this we promptly evacuated by free incision. Healing, as a rule, was rapid.

The inoculations with their results may be briefly summarized as follows:

Case 9.—Secretions obtained three or four days after beginning of the rash; Rhesus 94 a and Rhesus 94 b inoculated (this pair of animals having given no evidence of a reaction in a previous experiment with secretions, we inoculated them from this case). Result: No evidence of reaction.

Case 10.—A. Secretions obtained about twenty-four hours after the first appearance of the rash; Rhesus 129 and Rhesus 130 were inoculated. Result: Rhesus 129 gave some indications of a reaction which, however, were not characteristic; Rhesus 130 gave doubtful indications suggestive of a mild febrile reaction.

B. Secretions were a second time collected from this case, five days after the appearance of the rash; Rhesus 133 and Java 134 inoculated. Result: Rhesus 133 presented a slight rise in temperature after six days, not sustained; Java 134 presented a slight rise in temperature sustained for three days. These may have been reactions, but it is extremely doubtful and no definite interpretation is possible.

Case 11.—A. Secretions obtained not less than six hours before beginning rash; Rhesus 131 and Rhesus 132 were inoculated. Result: Neither animal presented any recognizable reaction.

B. Secretions a second time, collected four days after beginning rash; Rhesus 137 and Bonnet 138 were inoculated. Result: Monkey 138 died of a cachexia four days after inoculation; No. 137 presented no recognizable reaction.

Case 13.—Secretions obtained three days after beginning of rash; Rhesus 139 and Rhesus 140 were inoculated. Result: Neither animal presented any recognizable reaction.

Case 18.—A. Secretions obtained when eruption was beginning; inoculated Rhesus 135 and Java 136. (These animals had previously been used with negative result in an experiment with "scales," to be described later.) Result: Rhesus 135 presented a rise in temperature which was thought to mark a beginning reaction, but passage from this animal was negative, and as it was killed by the operation of bleeding, the clinical character of the reaction could not be observed; Java 136 presented a suggestive rise in temperature, of short duration, twenty-five days after inoculation. These results, though suggestive, we consider doubtful.

B. Secretions obtained *again, four days* after beginning of rash; Rhesus 147 and Rhesus 148 were inoculated. Result: Both animals gave indications suggestive of mild reactions, but not positively interpretable.

C. Secretions collected the third time, five days after beginning of rash; Rhesus 153 and Rhesus 154 were inoculated. Result: Rhesus 154 developed peritonitis and died; Rhesus 153 presented only doubtful indications of a reaction.

It would appear then that the nasal and buccal secretions in Cases 9, 11 and 13 were not infective for the monkey and that those from Cases 10 and 18 may have been mildly infective, but a definite interpretation is not possible.

Combining the results obtained in our first two experiments with those of the five here reported and viewing them as a whole, it would appear that the nasal and buccal secretions of uncomplicated cases of measles may be at times, but are not always, infective for the monkey.

Whether this applies to the human subject is another question; but it may be of interest to recall, in this connection, that Mayr[2] failed in one of his two human experiments to infect a child with nasal mucus from a case of measles in the eruptive stage.

We may add that the seven cases from which we obtained secretions in the foregoing experiments, while all well marked, were none of them characterized by severe catarrhal symptoms. In most of them, indeed, lacrimation and coryza were comparatively slight. This may have a significant bearing in explaining the results of our experiments.

Our experiments do not permit us to draw definite conclusions as to the duration of the infectivity of the secretions, but we think that our results tend to suggest a reduction, if not total loss, of infectivity with the approach of convalescence.

II.—SCALES

The rôle of the measles scales in the transmission of the disease has long been the subject of discussion, some observers claiming that they are infective and others that the disease is incapable of being transmitted by this means. Among the latter was Mayr[3] who, using [illegible] epithelium, failed in his attempts to [illegible] with measles by this means. On account of the important practical bearing which this question has, it seemed desirable to put it to experimental test. Accordingly, we made three attempts with epidermal scales to inoculate monkeys with measles.

Experiment 1.—The "scales" in this experiment were obtained from our Case 10, five days after the appearance of the rash, by briskly rubbing the forehead, cheeks, chin, back of neck, chest and back with a swab of absorbent cotton moistened with saline solution. The liquid pressed out of this swab was divided between Rhesus 135 and Java 136, the injection being beneath the skin of the ventral aspect of the thigh, precisely as in our "secretion" experiments. The results of these inoculations we consider negative.

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* From the Hygienic Laboratory U. S. Public Health and Marine-Hospital Service.

[1] Goldberger, Joseph, and Anderson, John F.: An Experimental Demonstration of the Presence of the Virus of Measles in the Mixed Buccal and Nasal Secretions, The Journal A. M. A., Aug. 5, 1911, p. 476

[2] Mayr, Frantz: Beobachtungen über Masern, etc., Ztschr. d. k. k. Gesellsch. d. Aerzte zu Wien., 1852, i, 13-14.

[3] Mayr, Frantz: Masern, in Virchow's Hand. der speciel. Path. u. Ther., 1860, iii, Part 3, p. 106.

Experiment 2.—In this attempt we used "scales" from four patients, namely, Nos. 14, 15, 16 and 17. These patients were in different stages of desquamation, varying from the beginning of, up to the seventh day of, convalescence. The "scales" were scraped from the face and arms of Case 14; from the forehead, neck, back and arms of Case 15, and from the forehead and temples of Cases 16 and 17, and all were mixed. With these mixed scales we inoculated two monkeys, namely, Rhesus 143 and Rhesus 144, as follows: The scales were divided into two portions; one was rubbed up in saline solution and the other allowed to remain dry. Some of the latter was introduced into the nose of each monkey by means of a glass rod and washed back with some of the saline suspension; the remaining saline suspension of scales was equally divided and injected subcutaneously. Neither monkey developed any indications of a reaction.

Experiment 3.—The scales for this experiment were obtained by scraping the face, forehead, temples, neck, arms and back of our Case 18, four days after beginning of the rash. These scales were rubbed up in saline solution and this suspension about equally divided between Rhesus 145 and Rhesus 146, the injection being beneath the skin. Neither animal gave any indications of a reaction.

The absolutely negative results of these three experiments would indicate that the "scales" employed were not infective for the monkey. Alone these experiments would hardly justify the inference that the desquamating epidermis in measles is not infective for man; but when viewed in the light of Mayr's results in children, we believe it highly probable, if not altogether certain, that the desquamating epithelium of measles, in itself, does not carry the virus of the disease.

On account of the cessation of the epidemic of measles in the city of Washington we have been obliged to bring our work temporarily to a close. The work which we here record and that which we have previously reported[4] in brief, we hope to publish in detail in a bulletin of the Hygienic Laboratory.

We desire again to express our grateful appreciation to our many friends who have aided us with cases of measles and to our colleagues at the laboratory and at Ellis Island for valuable assistance in the experiments.

Concentration of Energy.—Sir William Ramsay, in his presidential address before the British Association, says that "the whole progress of the human race has indeed been due to individual members discovering means of concentrating energy, and of transforming one form into another. The carnivorous animals strike with their paws and crush with their teeth; the first man who aided his arm with a stick in striking a blow discovered how to concentrate his small supply of kinetic energy; the first man who used a spear found that its sharp point in motion represented a still more concentrated form; the arrow was a further advance, for the spear was then propelled by mechanical means; the bolt of the crossbow, the bullet shot forth by compressed hot gas, first derived from black powder, later, from high explosives; all these represent progress. To take another sequence: the preparation of oxygen by Priestley applied energy to oxid of mercury in the form of heat: Davy improved on this when he concentrated electrical energy into the tip of a thin wire by aid of a powerful battery and isloated potassium and sodium."

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[4] Anderson, John F., and Goldberger, Joseph: Experimental Measles in the Monkey: A Preliminary Note, Pub. Health Rep., June 9, 1911, xxvi, 847. Experimental Measles in the Monkey: A Supplemental Note, Pub. Health Rep., June 16, 1911, xxvi, 887. The Period of Infectivity of the Blood in Measles, The Journal A. M. A., July 8, 1911, p. 113. An Experimental Demonstration of the Presence of the Virus of Measles in the Mixed Buccal and Nasal Secretions, The Journal A. M. A., Aug. 5, 1911, p. 476. The Nature of the Virus of Measles, The Journal A. M. A., Sept. 16, 1911, p. 971.

PHENOL (CARBOLIC ACID) GANGRENE

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Although many cases of gangrene from the use of phenol have been reported in recent years, they were mostly the result of the application of wet phenol dressings to the fingers or toes. In the case which I report here, the gangrene was due to the use of phenolized petrolatum in treating a bruised finger-end. The ring finger was affected. The mother stated that the physician had extemporaneously mixed the petrolatum and phenol; hence the strength was unknown. It did not whiten the finger, however, and the gangrene did not develop for several days. The finger was completely black and not painful except at the line of demarcation. Amputation of the whole finger was required. The boy was 5 years of age.

The cases reported by Harrington several years ago were mostly due to the use of phenol solutions in varying strengths applied as wet dressings to the fingers, but the above case emphasizes his warning of the danger of using phenol in any form as a dressing for fingers or toes.

SODIUM PERBORATE AS A DRESSING IN THE TREATMENT OF DIABETIC GANGRENE

A. HERZFELD, M.D.
NEW YORK

I have, in the past three years, extensively used sodium perborate and published a short article[1] on the treatment of epistaxis with this drug in 1909, in which the method of its use was exactly described. Further, I have used it successfully, not only in epistaxis, but also in secondary hemorrhage after adenoid operations and tonsillotomies.

I have used sodium perborate frequently in infected wounds, in acute and chronic ulcers, and in three cases of diabetic gangrene, in which the results were so marked, that I wish to report these cases.

CASE REPORTS

Case 1.—L. W., aged 48, up to two years previous enjoyed good health, had a family history of diabetes. For the previous two years he had been suffering from diabetes. In September, 1909, the patient had a phlegmon of the large toe of the left foot, which reached to the metatarsus. This was operated on. During the healing of this infection the third toe on the same foot began to become gangrenous; in a few days a line of demarcation formed; the patient refused amputation. The dead tissue was removed with the scissors, a dry sodium bicarbonate dressing had been used, but seemed to have no influence on the process. From October 15 sodium perborate was used by daily covering the whole surface with the dry powder (in the beginning twice daily). The wound rapidly developed healthy granulations, and Jan. 15, 1910, the patient was discharged completely cured. The sugar percentage varied from 1 to 3. Acetone was present. The patient died six months later of a complicating nephritis.

Case 2.—V. C., aged 42, female, colored, up to four years previously was in good health; since that time she complained of severe pains in muscles and joints, probably of rheumatic origin. Examination Oct. 5, 1909, revealed a large abdominal tumor (myoma) extending to the umbilicus, a loud systolic murmur over the mitral valve with hypertrophy (mitral regurgitation). On the inner surface of the left thigh was an ulcer of the size of a silver dollar, edges black and gangrenous, with flabby granulations. The patient stated that she had, fifteen years prior, a "sore" on the vulva. This ulcer on the thigh was treated as of luetic origin. The result was deterioration in the patient's condition and no improvement whatsoever in the ulcer. The urine was examined Nov. 2, 1909, and showed sugar but no acetone. The ulcer was now dressed with dry sodium perborate powder. It began to heal and was completely healed by Dec. 26, 1909.

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[1] The Journal A. M. A., March 13, 1909, p. 890.

Case 3.—S. H., aged 54, had a family history of diabetes; one brother died of Raynaud's disease. The patient, during a severe attack of pneumonia after an influenza, had numerous injections of camphor in oil (1 camphor to 4 sterilized olive oil) given, which injections caused six gangrenous ulcers on the thigh. Three of these coalesced and made an ulcer 3 inches in length and 1½ inches in width, and when the gangrenous material was removed was ½ inch deep. The wound was dressed twice daily for six weeks, Jan. 17 to March 3, 1911, with sodium perborate in powder form and slowly but steadily healed completely. The patient during this time had 1 per cent. of sugar but no acetone.

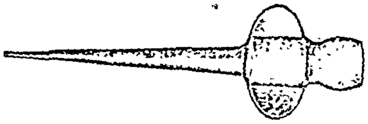
All of these patients were placed on appropriate diet and general treatment for diabetes.

224 West Twenty-Fourth Street.

URETERAL CATHETER COUPLER

BURTON HARRIS, M.D.
BROOKLYN

Hypodermic needles, soft rubber connections and various other makeshift devices hitherto employed in coupling a syringe to a ureteral catheter, are unsatisfactory because they permit leakage. A conical needle made after my suggestions obviates this difficulty.



Ureteral catheter coupler.

The instrument here illustrated is 3.17 cm. in length, measuring 13 French at the base, and the tip is sufficiently small to be readily introduced into the lumen of a 5 French catheter. It was designed to fit the Ehrlich-Hata Record syringe, for the reason that the latter is of convenient size and has the obvious advantage of a screw connection. However, it may be attached to the Janet-Frank or other syringe by means of a section of soft rubber tubing.

475 Greene Avenue.

New and Nonofficial Remedies

The following additional article has been accepted by the Council on Pharmacy and Chemistry of the American Medical Association. Its acceptance has been based largely on evidence supplied by the manufacturer or his agent and in part on investigation made by or under the direction of the Council. Criticisms and corrections are asked for to aid in the revision of the matter before publication in the book "New and Nonofficial Remedies."

The Council desires physicians to understand that the acceptance of an article does not necessarily mean a recommendation, but that, so far as known, it complies with the rules adopted by the Council.

W. A. Puckner, Secretary.

BISMON.—Colloidal Bismuth Oxide.—Bismon is claimed to be a preparation of colloidal bismuth meta-hydroxide containing about 20 per cent. metallic bismuth.

It is stated that Bismon results from the action of sodium lysalbinate and sodium protalbinate on bismuth salts.

Bismon is a light brown granular substance, forming with water, a fairly stable opalescent colloidal suspension (in these suspensions colloidal bodies are in such extreme state of subdivision that they were formerly supposed to be in solution and are still commonly so considered). In aqueous suspensions, decomposition manifested by the appearance of a black deposit is said to set in after three to four weeks. The aqueous suspension is not affected by metals.

If an aqueous solution of egg albumin be added drop by drop to a 1 per cent. aqueous suspension of bismon a white precipitate forms, soluble in an excess of the albumin solution.

If hydrochloric acid be added to an aqueous suspension of bismon a white turbidity soluble in an excess of the acid appears.

If hydrogen sulphide be passed into a 1 per cent. suspension of bismon a dark brown color, but no precipitate is formed. The addition of acid to this suspension produces a brown precipitate.

Bismon, when heated, chars, with evolution of fumes of burning nitrogenous matter, yielding finally a residue, which when dissolved in nitric acid responds to tests of identity for bismuth.

If 1 gm. bismon be gradually heated with fusion mixture, until all carbonaceous matter has been destroyed, the fused mass when cooled, dissolved in nitric acid, the bismuth precipitated with ammonium carbonate solution, the resulting precipitate when ignited to constant weight should yield at least 0.2198 gm. bismuth oxide (Bi_2O_3) corresponding to 19.7 per cent. bismuth.

Actions and Uses.—Bismon has the actions of other preparations of bismuth, but it is claimed that, on account of its solubility (property of forming colloidal suspension) it is more rapidly distributed over the mucous membrane of the gastro-intestinal tract.

It is said to be useful in acute and chronic intestinal derangements and in various forms of dyspepsia in infants and young children.

Dosage.—0.5 Gm. (7½ grains) in 5 to 10 per cent. solution (colloidal suspension) in water. The solution (colloidal suspension) may be added to milk or other appropriate liquid food.

Manufactured by Kalle & Co., A. G., Biebrich on the Rhine, Germany. (Kalle & Co., Inc., New York.) Trademarked in Germany. Not patented or trademarked in U. S.

Therapeutics

ANESTHESIA AND ANESTHETICS

(*Continued from page 1539*)

ADMINISTRATION OF ETHER

A very common method of the administration of ether has been by means of a cone made of paper and lined with a towel or napkin, with perhaps the addition of a sponge or some absorbent cotton. The ether in small amount is poured into the cone, and it is then placed over the nose and mouth of the patient. As the ether evaporates from the towel or other absorbent, fresh ether is of course added.

This method has some serious objections, the most important of which is that the strength of the ether vapor inhalations, i. e., the percentage of ether vapor contained in the air inhaled, is extremely variable. In practice it is generally attempted to counteract this variability by not holding the cone close to the face of the patient immediately after the ether has been poured into it, but even this does not allow of an accurate administration or of an administration continuously of one even strength of the vapor.

Various forms of apparatus have been devised to counteract these objections and to enable the ether to be administered continuously of a uniform strength. While these methods of administration are practicable in a large hospital where a physician is always at hand who is familiar with their use, in general practice and in the hands of men who do not frequently administer an anesthetic, and therefore are not especially skilful, it is desirable to find a simple method which will be at the same time efficient and safe.

A method of administering ether in continuous, regular quantity has been called the dosimetric method, which consists essentially of allowing the ether to fall, drop by drop, on a piece of thin fabric, such as flannel, which is supported on a wire mask like the well-known Esmarch chloroform mask. One of the originators of this method is Allis, of Philadelphia, who presented to the profession, in 1874, the so-called Allis inhaler, which consists of a large number of layers of flannel supported on a metallic frame, the whole surrounded by a cuff of rubber (in the best examples) which is open at both ends. Of the different inaccurate methods of administering ether, perhaps this is as good as any. The ether is dropped on the flannel through the top of the inhaler, and the drops should be well distributed over the flannel. This allows a considerable admixture of air, so that the patient does not suffer from lack of oxygen. At present, however, many prefer the wire mask covered with a single layer of flannel.

One great objection to these inhalers is that the rapid evaporation of the ether greatly chills the air which is taken into the lungs, and this may predispose to a post-anesthetic pneumonia.

The administration of ether is often attended by more or less discomfort. Early in the inhalation there is produced considerable irritation of the respiratory passages, so that the patient has a choking sensation and feels an irresistible desire to cough. This is probably due in most instances to the ether being administered too concentrated. If the ether is given in a very small quantity at first and then gradually increased in concentration, these unpleasant sensations may generally be avoided without any particular increase in the total time required to produce complete anesthesia. It is absolutely unjustifiable to push the anesthetic so that the patient has a closure of the glottis and a sensation of suffocation. Such an administration of ether is the cause of the spasmodic contractions of the muscles and the fighting of the patient for air. It is as sensible as would be deliberate choking of the patient. If an insane patient or a young child fights an anesthetic, ether should not be used until the patient has been anesthetized by chloroform or by nitrous oxid gas.

As the patient approaches complete anesthesia considerable annoyance is often caused by the dropping back of the tongue and the consequent interference with respiration. This may generally be avoided by placing the ends of the fingers of each hand back of the angle of the jaw and lifting it forward, or by lowering the head and extending the neck, with chin high. In some cases it may be necessary to seize the tongue with a pair of forceps and draw it forcibly forward. If the head is turned to the side, the tongue is less likely to fall backward.

A very unpleasant feature of the administration of ether in many patients is the stimulation of the muciparous glands of the mouth and throat, so that the throat becomes filled with mucus, which causes gurgling, nausea, and even choking. It often requires frequent swabbing of the mouth and throat with gauze, or better with pieces of sponge, grasped in a pair of long forceps. Such a profuse secretion is sometimes avoided by the hypodermatic administration of atropin (1/150 to 1/100 of a grain), from half an hour to an hour before the administration of the anesthetic.

It has been suggested to inhibit this profuse secretion by means of epinephrin solutions. Such solutions have been sprayed into the throat, or it has been suggested that a few drops of a weak solution (perhaps 1 to 10,000) be placed in the inhaler along with the ether, once in five or ten minutes. If the epinephrin solution is sprayed into the throat directly, and probably if it is carried in with the ether vapor, contraction of the arterioles of the throat will certainly occur. The exact amount of epinephrin that will actually be absorbed in this manner is of course problematical. It should not, however, be used carelessly, as it has long been demonstrated that epinephrin is, if introduced into the blood in any considerable quantity, depressant to the respiratory center, which of course would be very undesirable in ether narcosis.

The rapid method of administering ether, termed the "ether rausch," which has been used much in some clinics in Germany, and is mentioned by Dr. William T. Coughlin (THE JOURNAL, July 1, 1911, p. 17), is perhaps occasionally useful, but seems generally hardly justifiable. The patient breathes, for a portion of a minute, pure ether undiluted with any gas or air. Anesthesia is almost immediately temporarily complete, and minor cutting can be done, the anesthesia lasting from three to five minutes. There seem to be rarely after-effects like nausea and vomiting. On the other hand, theoretically it does not seem very safe.

For method of administering ether by means of a tube passed through the nostrils, and by the rectum, see THE JOURNAL, July 30, 1910, page 402.

Ether has been given intravenously by mixing it with cold water and then heating over a water bath so that the excess of ether evaporates, leaving a 4.68 per cent. solution. From 1,000 to 3,000 c.c. of such a solution have been infused into the blood-stream without any untoward symptoms (*München. med. Wchnschr.*, July 11, 1911). This method has been used in the surgical clinics at Greifswald. It would seem that such a method of administering ether would be very rarely justifiable.

Before commencing the administration of the anesthetic, the anesthetist should give careful attention (1), to the operating-room; (2), to the emergency table; (3), to the patient.

The *operating-room* must be warm, and the operating-table as comfortable as possible for the patient. There must be plenty of blankets. The legs and arms, a low pillow for the patient's head, and a pillow for the back, should all be arranged to be as comfortable and warm as possible without, of course, interfering with the exigencies of the particular operation. It is advisable to have a strong, well-working faradic battery, an oxygen tank (it should be remembered that Professor Henderson thinks too much oxygen in ether shock is inadvisable, and even advises carbon dioxid gas), transfusion apparatus, and warm, aseptic physiologic saline solution.

The articles on the *emergency table* should comprise:

1. Chloroform.
2. Ether.
3. Petrolatum.
4. Boric acid eye-drops (1 per cent.)
5. Tongue forceps.
6. Long forceps for swabbing, and properly made gauze or cotton pledgets (no ravelings), or pieces of sponge.
7. A mouth-gag, or cork, or a piece of rubber.
8. A large needle threaded with strong silk.
9. A pus basin.
10. Towels.
11. Two hypodermic syringes.
12. Atropin sulphate tablets (each 1/200 of a grain). (The amount is small, that the dose may be repeated, if needed.)
13. Strychnin sulphate tablets (each 1/40 of a grain). (The amount is small, that the dose may be repeated, if needed.)
14. Ampoules of saturated solution of camphor in sterile olive oil.

15. Ampoules of aseptic ergot.
16. Epinephrin solution in aseptic ampoules, 1-10,000.

The Patient:

1. A twenty-four hours' specimen of urine should, if possible, have been examined; certainly a single specimen should have been examined.
2. The condition of the heart and arteries should have been examined and the best anesthetic selected.
3. The patient should have received no solid food for a number of hours before the operation. If the operation is done early in the morning, it is best, three hours before the operation, to give either a cup of hot bouillon or a cup of black coffee.
4. The bowels should have been properly moved, generally by the aid of some cathartic, and often an enema is advisable at least an hour before the operation.
5. The urine should have been passed immediately before the administration of ether is begun.
6. False teeth should be removed. The nose, throat, mouth and teeth should be cleansed with an antiseptic wash. Hairpins should be removed, if the patient is a female, and the hair should be properly bound up under a cap; it is better that this cap is not made of rubber, as the head is likely to become very moist with perspiration, if the cap is impervious.
7. The face should be anointed with petrolatum, as the vapor of ether is irritant to the skin.
8. The rate of the pulse and the feel of the radial and temporal arteries should be noted before the anesthetic is begun.

The anesthetist should be a physician who has been especially trained for this work. He should give his entire attention to the anesthesia, and his attention should not be diverted from his own work to watch the operation, or for any other purpose. He should keep himself aware of the condition of the heart by holding the index-finger of one hand over the temporal artery where it passes over the zygomatic process in front of the ear. He can be aware of the condition of the respiration either by the rise and fall of the chest, or by feeling the exhalation of the air through the mask.

Next to the pulse and respiration, the pupil is the most important index to the condition of the patient. Sudden dilatation of the pupil, especially if accompanied by hiccough, are grave symptoms, and should lead to the immediate suspension of the anesthesia and the withdrawal of the ether.

In order to determine when anesthesia is complete, many separate the eyelids and touch the conjunctiva with the tip of the finger. This is a dangerous practice, and should not be followed, as the eye may be injured or infected.

The most useful test for determining complete anesthesia is raising the arm. If this falls without any muscular contraction, the anesthesia is complete. This condition may be present shortly after the administration of the ether is commenced, the so-called primary anesthesia, which may be followed by a brief return of muscular activity. The continued administration of the ether will soon produce complete anesthesia. If the operation is an abdominal one, a little ether poured on the abdomen will soon show, by reflex action from the cold, whether the patient is thoroughly anesthetized or not. Also, manipulations of any kind at the region to be operated on will often awaken an incompletely anesthetized patient when other signs have apparently pointed to complete anesthesia.

The patient should be kept as lightly under the influence of the anesthetic as is possible. Very deep anesthesia should be avoided. The anesthesia should be as brief as possible, but this, of course, rests with the operator. As soon as an operation is completed, the ether should be withdrawn. Often this can be done before the final stitches are inserted and the dressing applied. If the patient has not been too deeply anesthetized, he should begin to regain consciousness shortly after the withdrawal of the ether.

One of the most troublesome of the sequelæ of the administration of ether is nausea and vomiting. The exact cause of this has not been determined definitely. Some have believed that it was due to the irritation of the mucous membrane of the stomach from the ether swallowed, but this is probably not so, at least in all cases. Various methods have been proposed to combat this disagreeable symptom. All are more or less successful. If morphin has been administered before the operation, nausea does not occur as soon as when it has not been administered. It is often advisable to give an injection of morphin and atropin directly after the patient comes out of the anesthesia, that he may not suffer pain and shock from such pain. Such an injection prevents the nausea, at least for a number of hours. Hot water, administered frequently in teaspoonful doses, is often a successful, simple treatment. If mucus and gas are eructated, or actually vomited, large draughts of hot water should be taken, that the stomach may be thoroughly washed out by vomiting, or by the liquid passing the irritant onward into the bowel. Some surgeons believe in washing out the stomach. This is not often advisable, but is indicated if bile is regurgitated, or if blood is extravasated into the stomach. Oxygen inhalations have been suggested (The Journal, April 27, 1907, p. 1421). Pure olive oil, in ounce doses, has also been found useful in this condition (The Journal, Dec. 18, 1909, p. 2094). Of course, the oil would soothe the stomach, and would be especially sedative, if there was increased secretion of hydrochloric acid, which secretion oil inhibits.

As soon as possible after anesthesia, a starchy food, as oatmeal, should be given to prevent a possible development of an acidosis.

A not infrequent sequence of the administration of ether is an irritable bladder and more or less kidney congestion. This is shown by a slight albuminuria and by a diminished amount of urine. Such an irritation may be caused not only by the ether itself, but also by the profuse sweating and the small amount of liquid which has been ingested, causing the urine to become very concentrated and therefore irritant. To prevent such irritation, it is often good treatment, after an operation, to inject a pint of hot water, with or without salt (a physiologic saline solution), into the colon. Such liquid is rapidly absorbed and dilutes the blood and all the secretions and increases the excretion of urine. Such frequent irritation of the kidney renders it inadvisable, unless there is positive necessity, to administer ether a second time to the same patient within so short a period as a week. In fact, it has been shown that serious kidney congestion can occur following an ether or chloroform narcosis several weeks subsequent to the anesthesia. The fact of this tendency to irritate the kidneys makes ether as an anesthetic generally contra-indicated when there is kidney disturbance, especially if there is any acute inflammation present.

Dr. P. B. Hawk (*Arch. Int. Med.*, Aug. 15, 1911, p. 177) has shown that after ether anesthesia the urine excretion function of the kidneys is diminished. This of course has been clinically long recognized, and has been attributed to the greatly diminished amount of water ingested for a number of hours and to the profuse sweating caused during anesthesia. Hawk has seemed to show that there is actual diminished activity of the kidneys, perhaps from depressed circulation. Normally, the kidneys in a few hours after the anesthesia is ended, begin to act efficiently, especially if a physiologic saline solution is placed in the colon.

To hasten the elimination of ether from the system, plenty of fresh air should be allowed in the room, provided it is sufficiently warm. The patient, under any circumstances, must be surrounded with hot-water bottles and blankets so that he may not lose too much heat, or better, may even acquire heat, during the shocked condition subsequent to anesthesia, such a condition being generally present. Such care that the patient does not lose heat is an important preventive of surgical shock.

If much blood has been lost and the patient is in a condition of collapse, besides administering physiologic saline solution by the rectum, intravenous or subcutaneous transfusions of saline solutions are often advisable. Raising the foot of the bed should also not be forgotten in this condition. It may be here parenthetically stated that when the Trendelenburg position has been long used in an operation the return of the patient to a level should be brought about gradually, lest anemia of the brain be caused.

When a patient has lost a large amount of blood, or there is a condition of shock already present, or it is feared that the patient is not going to stand the operation well and yet the operation must be done, the blood from one or both legs has been shut off by tourniquets. When the circulation entirely ceases in the extremity so treated, the blood there contained is, of course, free from the anesthetic, and may be turned in to the general circulation at such time as the anesthetist or the operator decides. The patient will of course be revived by such blood. Perhaps the extremity and its blood should not be shut off from the general circulation more than half an hour lest some trophic or nerve changes occur. Danger from clotting and therefore from emboli might well be considered, if there are diseased arteries. High blood-pressure and cerebral congestions may contra-indicate this procedure.

Another untoward effect is sometimes observed in the supervention of an attack of pneumonia. It has been proved that either ether, chloroform, or alcohol diminish the resistance of the cells to bacteria. Pneumonia is more apt to supervene when the narcosis has been deep and protracted. Many believe that it is also encouraged by the inhalation of cold air with the ether, and it also undoubtedly happens that the development of pneumonia is promoted by the exposure of the patient, while under the influence of the anesthetic, by allowing the coverings to slip off from his body and limbs, or from allowing him to lie in coverings or clothing saturated with blood or other fluids used during the operation. It is exceedingly important that a patient under an anesthetic should be kept warm and dry. Various devices have been designed for keeping the patient warm by appliances connected with the operating table. These are often useful, but caution should be exercised lest the patient, while unconscious, should be burned by such appliances.

As just stated, pulmonary congestion and postoperative pneumonia are frequent serious occurrences after prolonged anesthesia, especially after prolonged etherization. Various factors have been assigned an influence in the etiology of these pulmonary conditions. Among others, it has been alleged that probably the chilling of the respiratory organs by the evaporation of the anesthetic has an important part. It has been observed that anesthetics seemed to act better in warm climates and in warm weather. From these observations it has been deduced that if the anesthetic is warmed before it is administered, there will be less danger of pulmonary sequelæ. During the last ten or fifteen years many anesthetists have insisted on having the anesthetic itself, or the vapor, warmed before it is inhaled by the patient. This may be accomplished in various ways. For ordinary use, the warming of the can of ether or the bottle of chloroform to about the temperature of the body would seem to be most desirable. The inhalation of an anesthetic at this temperature results in less irritation in the throat at the beginning of anesthesia, the early accession of complete anesthesia, the necessity for a smaller amount of the anesthetic during the operation, and hence fewer after effects.

Many patients complain of backache after an operation. This is probably due in many cases to straining of the muscles of the back on account of the back not being properly supported while the patient is unconscious. In order to avoid this a small pillow should always be placed under the lumbar region of the patient while he is on the operating table.

The question frequently arises whether to anesthetize the patient in the operating-room and on the operating table, or in an adjoining room. With reference to this it should be urged that the less a patient is moved about after the administration of the anesthetic is commenced, the better. On the other hand, a nervous patient should generally be anesthetized in an adjoining room, and if possible, on a stretcher or rolling table, so that he may be transferred to the operating-room and then to the operating table with the least possible general disturbance.

As elsewhere stated, the ability to withstand infection is greatly reduced after an etherization. How long this susceptibility to infection persists it is difficult to determine, as it probably varies in different individuals. It seems that the opsonins of the blood and the ability of the polymorphonuclear cells to increase in number and act as phagocytes are certainly diminished. It has been shown by Graham (*Jour. Infect. Dis.*, 1910, viii, 147, and The Journal, March 26, 1910, p. 1043), that when lecithin is added to blood whose ability to fight disease is thus diminished, it rapidly brings its resistance to infection up to normal. Olive oil given by the rectum is also shown to increase the opsonic power of the blood. When it is remembered that ether and chloroform have been shown to combine with fat elements and certainly with lecithin, the administration of a lecithin preparation or the administration of rectal injections of olive oil seems scientifically good treatment after etherization.

CONTRA-INDICATIONS OF ETHER

Ether is contra-indicated if there is present disease either of the lungs or kidneys. Other contra-indications to the use of ether are chronic alcoholism, aneurysm, very high blood-pressure, and an atheromatous condition of the arteries.

(To be continued)

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

535 DEARBORN AVENUE . . . CHICAGO, ILL.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

[*For other information see second page following reading matter*]

SATURDAY, NOVEMBER 11, 1911

CAN HAIR TURN WHITE IN A NIGHT?

A cherished popular belief is that of the sudden blanching of the hair from fright, worry or other severe mental strain. It plays its part in the drama and in fiction, while history records its famous instances. Who has not heard that Marie Antoinette's hair turned white during the night before her execution, or that the deeds and terrors of St. Bartholomew's night blanched the hair of Henry the Fourth? Most of us have wondered how the change could come about so rapidly as tradition relates; and yet so universal is the belief in this phenomenon that few have the hardihood to doubt it. One may accept one theory, that a sudden entrance of air or gas into the hairs makes them gray or white; or one may accept Metchnikoff's idea that it is all done by hungry, pigment-loving phagocytes, or one may take the stand of Stieda and boldly say that it isn't so at all. This refractory German first proves that such a thing couldn't possibly happen, and then, not satisfied, declares that it never did happen. With equal disregard of folk-lore, history and medical literature, he points the finger of doubt, and challenges many long-deceased historians and physicians to arise and prove their stories.[1]

In an extensive article[2] he shows that when the hair turns white under ordinary conditions it does so in one of two ways. Either the pigmented hairs fall out and are replaced by unpigmented hairs, or, less commonly, pigment-production stops in a growing hair and the colorless portion gradually replaces the darker outer segment. In neither case is there a bleaching or removal of existing pigment from the hair, leaving it colorless. Metchnikoff's theory of removal of pigment by phagocytes, and the older hypothesis of bleaching of the hair by formation of gas bubbles, are both, Stieda believes, entirely incorrect.

As this work supports the theory that hair becomes white only by replacement, and as the growing of a new crop of hair in a single night is beyond the possibilities of even the Seven Sutherland Sisters, the author must needs discredit all tales of such miraculous transformation. This he does *in extenso,* taking up the best-known instances of such supposed blanching of hair, and finding them all lacking in support sufficient to meet critical consideration, much less such control as to establish an acceptable scientific demonstration. For example, he finds that Charcot doubted the story of Marie Antoinette's sudden loss of hair pigment, stating that although the queen certainly was gray at the time of her execution, yet this was no novelty, for she was also gray nine months before, at the time the king met his sudden end at the hands of the revolutionists.

As for the rest of the reputed cases, many are nothing better than old-wives' tales, while others are examples of medical credulity substituted for healthy skepticism and careful investigation. The explanation for many is unkind, being simply that the keeper of the jail or dungeon in which the unhappy heroine or hero was confined neglected to furnish his guest's dressing-table with the hair-dye to which the latter had been accustomed at home, and that Nature asserted herself before release or execution. Verily the iconoclast respects nothing—not even the gray hairs of royalty.

MILK-BORNE TONSILLITIS

Epidemics of "septic sore throat" in England have from time to time been attributed to milk-supply, but in this country such outbreaks seem to have been less common, or, at all events, less commonly recognized. The fact that the remarkable epidemic of virulent tonsillitis occurring in Boston and vicinity last spring has been carefully investigated is therefore matter for congratulation. The Boston epidemic, including the cases in Brookline and Cambridge, affected over one thousand persons, forty-eight of whom died. There is now presented unimpeachable evidence showing that the epidemic was spread in milk from the Southboro farm of the Deerfoot Company, the infection of the milk apparently originating in an epidemic of the same character which prevailed in Southboro and neighboring towns during some six weeks preceding the Boston outbreak.

Apart from the high degree of virulence apparently possessed by the streptococcus strain concerned in the epidemic, there are other features of special interest. The milk-supply implicated has been for some years one of the most favorably regarded among the large Boston supplies. This was due not only to the facts that excellent regulations were in force to avoid contagion and that cattle and farms were carefully inspected, but also to the fact that the whole process was controlled by an experienced and well-known laboratory worker under contract with the Deerfoot Company. The recent searching inquiry has failed to reveal any instance of neglect or lack of precaution. In a word, the conditions surrounding the implicated milk-supply would be considered ideal and to-day are so considered by the best authorities on dairy sanitation. Here infection leaped the barriers of all known precautions. "Boston has suffered severe lessons along this line. In 1907 there

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1. Stieda, L.: Deutsch. med. Wchnschr., 1910, xxxvi, 1484.
2. Anatomische Hefte, 1910, xl, 285.

were 717 cases of scarlet fever traced to one milk-supply, and seventy-two cases of diphtheria to another. In 1908 there was a milk-borne outbreak of typhoid fever totaling 400 cases. In 1910 there was another scarlet fever epidemic of 842 cases. Including the present outbreak, there have been over 3,000 cases of epidemic disease traced to milk in the immediate neighborhood of Boston in a period of five years."[1]

The Boston epidemic seems to cast some doubt on the value of the method of controlling the public milk-supply by inspection rather than by pasteurization, but cannot be regarded as wholly condemning efficient inspection, as inspection raises the general standard of cleanliness and consequent safety of milk. Accidental contamination under almost ideal conditions is always a possibility. Our readers will be reminded of the recent epidemic of diphtheria among the students and faculty of the University of Minnesota on which we have commented.[2] In this case the source of infection was one of the cleanest and best-regulated dairies in the Minneapolis district, the contamination coming from a human source. The Boston epidemic demonstrates again that milk from a "model" farm may, through accidental contamination, spread contagion widely. In this latter case there was no evidence that diseased cattle were the source of infection, the facts discovered in the investigation rather strengthening the hypothesis of a human origin. Probably a temporary "carrier" was concerned. Inspection is an expensive process and many sanitarians have pointed out that in the nature of things it cannot afford absolute security, a statement that seems to be confirmed by the instances mentioned. With no desire to advocate or approve of the abandonment of careful inspection of dairies, notwithstanding its expensiveness, we must admit that the results of investigation of these two epidemics tend to support the advocates of general pasteurization of public milk-supplies.

UNDERNOURISHMENT AND GROWTH

The interrelation of malnutrition and growth is a topic of preeminent interest in practical pediatrics as well as in physiology. The expression "retarded development" is ordinarily applied to a failure to gain in body weight. There are obviously two simple clinical methods of measuring growth, namely, by body weight and body length. But both of these factors which afford the external expression of internal developmental changes are not necessarily halted at the same time. Indeed, it has frequently been noted that poorly nourished atrophic infants may continue to grow in size to a considerable degree.[3]

At first glance it may seem somewhat anomalous that an individual should exhibit growth in the absence of any increase in body weight. Quite recently several experimental contributions have thrown a new light on this question. H. Aron,[4] some of whose interesting studies on nutrition in the Philippine Medical School have already received notice in THE JOURNAL, has made careful measurements on dogs to ascertain whether or not it is possible to suppress the process of growth entirely by restriction of food, and if so, for how long. Among a number of comparable animals in each series, some received just enough food to keep their body weight constant; others, varying additional amounts, so that more or less intensive growth resulted. The striking outcome was that if a growing dog is kept at a constant weight, or even at a slightly decreasing weight, the bones continue to increase in weight and therefore to grow, although not quite so rapidly as in a normally fed control animal. If the bones have absolutely and relatively increased in weight, while the total weight of the animal has been kept constant, it is obvious that other parts of the body must have lost in weight.

The glandular organs are apparently not seriously involved in this process of consumption. The analyses indicated that the tissues which have undergone loss during the underfeeding are the muscles and fat. Of peculiar interest is the observation that the brain has nearly the same weight in a growing dog kept at constant weight as in a normally developed animal. This reminds one of the condition in so-called infantilism, in which children may exhibit a marked mental development despite the retardation of growth in its more obvious aspects. The losses in Aron's dogs, aside from the fat, involve a quantity of protein especially from the muscles, while a great proportion of the body tissue, notably in the blood, is replaced by water. The latter, with the increase in the skeleton, replaces the body materials lost.

A point of practical interest lies in the fact, here experimentally demonstrated, that during the period of growth a stationary condition in respect to body weight may actually be the expression of starvation. Only in the last stage of emaciation, when there are no body reserves to draw on, is growth entirely suppressed.

Similar observations have been made by Waters[5] on growing cattle. This author says that ungrown animals that had been previously well nourished continued to increase in height and in width of hip for a considerable length of time, even though on a starving ration. Apparently, the animal organism is capable of drawing on its reserve for the purposes of sustaining the growth process for a considerable time and to a considerable extent. His experiments indicate that after the reserve is drawn on to a certain extent to support growth, the process ceases and there is no further increase in height or in length of bone. From this point on, the animal's chief business seems to be to sustain life.

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[1] Winslow, C. E. A.: Boston Transcript, Oct. 31, 1911.

[2] THE JOURNAL A. M. A., July 1, 1911, p. 30.

[3] Fleischer: Arch. Pediat., October, 1906.

[4] Aron: Wachstum und Ernährung, Biochem. Ztschr., 1910, xxx, 207; Nutrition and Growth I, Philippine Jour. Sci., 1911, vi (B), 1.

[5] Waters: The Influence of Nutrition on Animal Form, Bienn. Rep., Kansas State Board of Agric., 1911, xxii, 199.

Few comparable measurements have been made on undernourished children. Data published by Freund[4] point, however, to similar phenomena in human development, where some growth in length is not checked by underfeeding.

From the foregoing it appears as if "the tendency to grow in a young animal is greater than the tendency to maintain life" (Aron). The tendency to grow is possessed principally by the skeleton, which sets the pace for the other tissues to follow if possible. It is highly significant to find that the capacity to grow is not necessarily lost through early malnutrition. Re-alimentation and renewed growth follow more or less normal courses, so that, as the recent measurements by Birk[5] on children show, earlier losses may be regained.

The facts reviewed are of importance in practical pediatrics. Aron says: "A child which does not increase in weight or increases slowly is so undernourished that part of its own body substances are being consumed. We can go even further in our conclusions. If a child does not present the weight which we have a right to expect at its age, assuming that it was born with a more or less normal weight, this child's body does not have the normal composition. It will contain a higher percentage of bones, a lower content of fat and muscle tissues, and a higher content of water." To feed such children properly is fundamental.

PREVENTION AND NOT TREATMENT

An osteopathic association recently adopted a resolution favoring a national department of sanitation, but opposing a national department of medicine. This is encouraging, and this osteopathic association is to be congratulated on its broad-mindedness and perspicacity. We did not know, however, that anyone favored a department of medicine, or that there had been a suggestion that one be established. The Journal has again and again insisted that the sectarian adherents were exciting themselves unduly and needlessly. A national department of health would be charged with the work of studying the cause and methods of preventing diseases. It would have nothing to do with the treatment of individual patients or with the practice of individual physicians. Those who object to the Owen bill on such grounds are incapable of distinguishing between the scientific study of disease in the abstract and the care of the patient suffering from the disease. The first is an important public duty. The second is a matter of personal choice. The vague and awful charges of "establishing a state school of medicine," "medical tyranny," "perpetuation of a medical trust," "interference with personal liberty," etc., are made either through ignorance or through a desire to mislead the public as to the real purpose of such a measure.

Let it be repeated again: Congress has no power to pass any law interfering with the practice of medicine in the states. Neither Congress nor any state legislature has any right to compel any sane adult to take any form of treatment against his will. The Owen bill does not create a single new bureau or division. It simply collects, in a single department, certain existing bureaus and divisions having functions bearing on public health. It authorizes the establishment of laboratories and the employment of scientific experts to study disease as Koch studied tuberculosis, as Carroll and Lazear and Agramonte studied yellow fever, as Stiles and Ashford studied hookworm, as Ricketts studied mountain fever, as Flexner is studying cerebrospinal meningitis.

Have any of these men interfered with personal liberty? Has not the victory over yellow fever, as the result of the work of the Army medical officers, released the entire South from the fear of epidemics, the tyranny of the shot-gun quarantine, the periodic suspension of business and the loss of millions of dollars each year? Has not the discovery of the hookworm and the possibility of removing this infection and its results, given new hope to the South of the solution of its labor problem and of its industrial development?

Has Gorgas, in the Canal Zone, trodden on the rights of any one? Yet America is building the canal, where France failed, because applied scientific knowledge is guarding the workman from disease and keeping him alive to do his work. It is about time that the American public understood that the stock objections to advanced sanitary regulations are based on ignorance and misconception of both the law and the facts. A national department of health, like our state boards of health, would be for the study and prevention of disease and the advancement of public health and not for the treatment of individual patients, or for the regulation of the practice of medicine.

Current Comment

IRRATIONAL GOVERNMENTAL DECISIONS ON SODIUM BENZOATE

Last week we referred to the much-discussed question of the use of sodium benzoate as a food preservative. While a great deal has appeared regarding the controverted question of the harmfulness or harmlessness of this chemical, but little attention has been given to the attitude of the United States government on the subject. The fact is, the ruling of the government officials on the question of the use of sodium benzoate in foodstuffs is inconsistent to a degree. They have pronounced the chemical harmless and they permit its use in unlimited quantities in foods, but—and here lies the absurdity—they insist that those manufacturers who use it shall declare on the label both the presence and the proportion of the chemical used. Why should a catsup-maker, for instance, be forced by the government to state the presence and quantity of an ingredient of his product which the same government has officially pronounced harmless and which it permits to be used in any quantity? It is altogether unjust to rule that a manufacturer shall declare the presence and proportion of one ingredient of his product—an ingredient which the government claims to be wholesome—while the presence of any other wholesome ingredients may remain a secret. It is highly probable that if this ruling were brought up to the courts, it would be declared discriminatory and illegal. The only possible explanation for such ridiculous inconsistency is that the government officials who issued this decision knew that they had the wrong side of the controversy and that the American public was not with them. In other words, benzoate of soda is not harmless and the concession to the manufacturers called for a compensating sop to the people. So the officials "hedged" by injecting into their decision a technical restriction in the use of the chemical in foodstuffs.

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[4] Freund: Zur Pathologie des Längenwachstums bei Säuglingen, Jahrb. f. Kinderh., 1909, lxx, 752.

[5] Birk: Unterernährung und Längenwachstum beim neugeborenen Kinde., Berl. klin. Wchnschr., 1911, xlviii, 1227.

THE ART OF OMISSION

Robert Louis Stevenson (himself a master of the *ars omissionis*) writes in one of his letters: "There is but one art—to omit! Oh, if I knew how to omit, I would ask no other knowledge. A man who knew how to omit would make an Iliad of a daily newspaper." When all medical writers have learned to omit the useless, the trite, the insignificant and the irrelevant, many manuscript editors will find their occupation gone; but private misfortune will pass unnoticed amid the general rejoicing. *Ars longa, vita brevis;* it takes a long while to learn to be brief; but, on the other hand, nothing will more effectively extend the average span of life than general mastery of the art of omission—in medical literature, at least.

GENEROUS BUT NOT JUST

The story of Dr. Grenfell's heroic and self-sacrificing work among the Labrador fishermen has stirred the entire English-speaking world. American physicians are as proud of him as are his English confrères, since science is international and knows no boundaries. The fact that this noble physician won an American girl as his wife has only increased the sense of pride and proprietorship which all America feels in him. Nor has our enthusiasm limited itself to applause. An American business man, Mr. George B. Cluett of New York, has donated a fine new schooner as an auxiliary to Dr. Grenfell's hospital ship. Two auxiliary yawls have been presented by American college students. Many American dollars have gone to help Dr. Grenfell in his noble work. This is right, and it is to be hoped that means for this purpose may never be lacking. Yet the amazing fact has recently become known that while America has been helping generously to provide hospital ships and surgeons for the fishermen of Newfoundland and Labrador, our own American fishermen, from Cape Ann and Gloucester and Marblehead, have been dependent for aid in time of need on the charity of a French hospital ship. It is not gratifying to our sense of pride and independence to know that at the very time we were giving with a lavish hand to our heroic neighbor on the north, our own sailors were forced to accept from a foreign vessel the aid our own country had withheld. Such neglect of our own can be due only to ignorance and surely, now that the facts are known, there will be no lack of money and men to supply this shameful lack. If Congress does not make provision for a United States hospital ship for our fishermen, private philanthropy should see to it that we no longer suffer under the charge of being unjust and neglectful of our own, at the same time that we are generous with our neighbors.

PROBABLE TAPEWORM INFECTION OF NORTHERN MICHIGAN WATERS

From information received from the State Board of Health of Michigan, which will be embodied in the next publication of that board, we learn that the attention of Dr. Warthin of the Department of Pathology of the University of Michigan has been specially called to the occurrence of the broad tapeworm (*Bothriocephalus latus*) in the mining population of northern Michigan. The large number of Finns and Swedes living in the mining towns might be expected to include cases of this infection, which is said to be very prevalent in Finland and Russia as well as other Baltic states. It also occurs in other European countries and in Japan, but up to recent years has been rarely reported in this country. Prior to 1888 but one case had been reported (by Leidy), though undoubtedly others had occurred; and a large tapeworm was certainly not unknown in Alaska in the sixties among the Russian and creole residents, which by them was attributed to the eating of salmon. Up to 1907 only thirty cases had been reported in the United States, according to Stiles in Osler's "Modern Medicine." Stiles pointed out, however, that it might very likely become more frequent in the fish in some of our lake regions, through infection from the Finnish and Swedish immigrants, and it appears from Dr. Warthin's report that this has already taken place. He finds that children who have been brought to this country as nursing infants have become infected after the age of puberty and it is improbable that they could have brought the disease with them at that tender age to develop at so late a period. One case at least is reported of a child 5 years old who had never been out of the country but who had eaten uncooked fish from Portage Lake. This is itself a sort of arm or inlet of Lake Superior which is probably also contaminated. The *Bothriocephalus* is the most formidable of the tapeworms—one of the largest, if not the largest, and most rapid in its growth—and is capable of causing serious symptoms. The danger, of course, lies in the eating of fish uncooked, but there is a large market for smoked lake whitefish and herring, which are probably often eaten without cooking, or without cooking enough to destroy the parasites. This is especially likely to occur when a new purchaser is informed that cooking is unnecessary. The report to the Michigan Board of Health concludes with a statement of the belief that the infection of the northern waters has already occurred, all the necessary conditions being present, though the larvæ have not yet been actually demonstrated in the fish or its organs. It is recommended that a thorough investigation be made, that measures be taken to prevent the contamination of the waters by the passage of feces of infected persons through sewage, and that warning be given against eating fish — unless thoroughly cooked—which has been caught in localities where the parasite has been found. Only thorough cooking will destroy the larvæ and prevent infection. Smoking, salting and drying are insufficient. The matter is one which has more than a simple local interest, as the Lake Superior fisheries furnish a large proportion of the choicest fresh water fish used in the northern states. A general infection of Lake Superior fish could hardly be kept from spreading to the other lakes and thus greatly increasing the evil.

PATENT-MEDICINE EX-CONGRESSMAN IN THE MESHES OF THE LAW

Our readers were probably not greatly surprised at the announcement in the daily press a few days ago that ex-congressman H. M. Coudrey of Missouri had been arrested on a charge of using the mails to defraud. The alleged misuse of the mails was in connection with the business of the Continental Life Assurance Company and the International Fire Assurance Company. Coudrey's activities in the "patent-medicine" business were discussed in THE JOURNAL, March 30, 1907, p. 1121. At that time, in addition to being an insurance agent and a member of Congress, he was president of the Labordine Pharmacal Company. This company was engaged in the exploitation of about as brazen a fraud as has been perpetrated on the public and the medical profession; it claimed to have a "purely vegetable antipyretic" which was also "a purely vegetable cardiac stimulant." As the analyses made for the Council on Pharmacy and Chemistry showed, this product—Labordine—consisted largely of acetanilid. Coudrey attracted a certain amount of attention in Congress as the author, or introducer, of a number of freak bills including one relating to the Pharmacopeia which was quite generally pronounced "unintelligible," but which probably had a very definite meaning to some people. The point of immediate interest now, however, is whether there are men in the present Congress who have affiliations with such concerns as the Labordine Pharmacal Company; the debates at the coming session of Congress on the proposed, and much-needed, amendment to the Food and Drugs Act and the department of health bills will be followed with much interest from this standpoint.

CHAMLEE GOES TO CALIFORNIA ?

We recently called attention to the fact that S. R. Chamlee, who, until the government interfered, conducted a cancer cure fraud in St. Louis, had opened an office in Chicago. We also noted that Chamlee was advertising for a registered physician so that he might carry on his nefarious work under the protection of the law. We learn from the secretary of the Illinois State Board of Health that as soon as the board's attention was called to the fact that Chamlee was in Chicago, inspectors were sent to investigate the concern. The quack had not yet succeeded in getting his legalized stool-pigeons—in the form of registered physicians—and offered to treat these inspectors, who, he thought, were patients, and accepted a fee therefor. The State Board of Health immediately commenced suit against him and on November 1, Chamlee was fined $100 and costs. He paid the fine and announced his intention of going to California to spend the winter. In the Chicago *Examiner*, November 5, however, we find an advertisement of Chamlee's in which the names of "Drs. Hurford and McKeon" appear. Evidently this faker has been able to find two physicians who are willing to barter their birthright of professional decency for a consideration. It now remains to be seen whether the Illinois law will permit such men to practice. Chamlee's alleged intention of going to California arouses the suspicion that possibly that state is a better haven for quacks than Illinois. It will be remembered that at the time Chamlee was convicted of fraud by the United States Government he had offices both in Los Angeles and St. Louis. We understand he is still running the Los Angeles office. It might be well for the authorities in that state to take a page out of the note-books of Illinois and Missouri. One of the most crying needs of to-day is more aggressive action on the part of state officials. The tendency has been and to a large degree, still is, to allow the federal government to shoulder the responsibility for the prosecution of such vultures as Chamlee.

Medical News

DISTRICT OF COLUMBIA

Building for Physicians.—The Professional Building is the latest innovation in the way of structures in Washington. The four-story house, formerly the home of Justice Peckham of the U. S. Supreme Court, has been remodeled and will be utilized as an office building exclusively for physicians.

ILLINOIS

New Hospital In Cairo.—Dr. Alpheus A. Bondurant has completed arrangements for the erection of a new hospital on Seventh Street, to cost about $50,000. The building will be fire-proof, with the latest ideas as to sanitation, ventilation, etc., and will contain about forty private rooms, besides four wards. It is expected to be ready to receive patients next summer.

County Antituberculosis Society Formed.—At a meeting held in Urbana, October 24, the Champaign County Association for the Prevention of Tuberculosis was organized. Hon. J. O. Cunningham, Urbana, was elected as temporary chairman, and Prof. W. W. Earnest, Champaign, temporary secretary. A committee on organization was appointed, to report in two weeks.

Deaths of the First Half-Year.—According to the reports of the State Board of Health, pneumonia was the chief cause of deaths during the six months ended July 1. The percentages of the chief death causes were as follows: pneumonia, 14.06; tuberculosis, 6.28; influenza, 2.04; typhoid fever, 1.38; measles, 1.17; diphtheria, 1.1; whooping-cough, .9, and scarlet fever, .7.

Personal.—Dr. Faith E. Spangler has been appointed junior physician at the Cook County Hospital for the Insane, Dunning.——Dr. O. W. Michael, Muncie, is reported to be seriously ill.——Dr. Watson W. Gailey, Bloomington, who was operated on for appendicitis at the Brokaw Hospital, October 26, is reported to be doing well.——Dr. Albert E. Campbell, Clinton, has been appointed sanitary inspector of the Illinois Central System. The duties of this position includes the maintenance of healthful surroundings for employees and patrons of the railroad.——Whiteside Medical Society held a special meeting at Fulton, November 9, in honor of Dr. Charles A. Griswold, Fulton, the oldest physician in the county.

Hospital Dedication.—Elaborate exercises marked the dedication of the Granite City Sisters' Hospital, October 12. The institution, which was formerly known as the City Hospital, was dedicated to the Franciscan Sisters and formal possession was taken. Patients applying for treatment in the hospital will be permitted to choose their own attendants and the institution will have no medical staff. Accommodation is provided for forty-eight patients.

State Tuberculosis Association Meeting.—The annual meeting of the Illinois State Association for the Prevention of Tuberculosis was held in Chicago, October 31, and the following officers were elected: president, Dr. William A. Evans, Chicago; vice-presidents, Drs. Tully O. Hardesty, Jacksonville, and George Thomas Palmer, Springfield; secretary, Mr. James Minnick, Chicago, and treasurer, Mr. David R. Forgan, Chicago. The association plans to secure the cooperation of the women's clubs of the state in a survey of the tuberculosis situation, and will be asked to obtain the number of deaths caused by tuberculosis during 1910; the number of cases of living tuberculosis; the number of cases needing material assistance, and the number of patients cared for at poorhouses, asylums, jails, reform schools, hospitals and sanatoriums. Dr. St. Elmo M. Sala, Rock Island, was elected a member of the Central Council.

Chicago

Statue to Dr. Senn.—At a meeting of the Senn Club, October 31, plans were extended for a bronze statue, to the memory of Dr. Senn, to be placed in Lincoln Park. The statue is to cost $25,000, and the funds for this purpose are to be sought by subscriptions from physicians.

Additional Appropriation for Health Department Needed.—Health Commissioner Young has asked an increase in the appropriation of $180,000 for payroll and expansion purposes. The board intends to create a board of control to take charge of the city hospitals and lodging-houses, and the proper licensing and inspection of hospitals.

IOWA

New Medical Association.—A medical association has been organized in Decorah, which includes the physicians of the counties of Allamakee, Winneshiek, Howard, Chickasaw, Fayette and Clayton, and the following officers have been elected: president, Dr. Philo M. Jewell, Decorah; vice-president, Dr. E. W. Johnston, Alta Vista, and secretary-treasurer, Dr. William C. Hess, Cresco.

Personal.—Dr. Harry E. Kirschner, for four years superintendent of the State Sanatorium for the treatment of tuberculosis, Oakdale, has resigned, and will remove to California. ——Dr. Edward Hornibrook, Cherokee, was the guest of honor at a banquet in Cherokee, October 30, on the occasion of the fiftieth anniversary of his entrance into practice. A testimonial, engrossed on parchment, and setting forth that Dr. Hornibrook had well and faithfully performed his duties to the sick and afflicted for fifty years, and signed by all the members of the Cherokee County Medical Society, was presented to Dr. Hornibrook.——Drs. Thomas F. Duhigg, Archelaus G. Field, Lewis Schooler and James W. Osborn, all of Des Moines, have been appointed a committee to write the history of the Polk County Medical Society.——Dr. Wilton W. McCarthy, Des Moines, was obliged to undergo enucleation of an eye, as the result of a burn from a cinder two weeks previously.

KENTUCKY

Out-Door School to be Established.—The Board of Education of Louisville is planning to establish an out-door school for anemic and debilitated children, and Dr. James W. Guest has offered a site on which a building for this purpose may be erected.

State Society Officers.—The list of officers of the Kentucky State Medical Association, which appeared in The Journal of last week, was incomplete as regards the president and president-elect. It should have read: president, Dr. James Givens Carpenter, Stanford; president-elect, Dr. David O. Hancock, Henderson.

Tuberculosis Tax.—A contract has been made between the city of Louisville, by its general council, and the board of trustees of the Tuberculosis Hospital, whereby the board agrees to care for all the tuberculosis patients of the city. The city is to raise money for defraying the necessary expenses by a tax not to exceed 2 cents on each $100. Heretofore the city has made an appropriation each year and has cared for the patients at the City Hospital, but a law was passed by the last legislature authorizing the city to raise money by taxation for this purpose.

Health Exhibit Car.—The free traveling health exhibit car of the Kentucky Association for the Study and Prevention of Tuberculosis left November 4 for a trip through the extreme eastern portion of the state. The trip will occupy twenty-one days and the car will visit twenty cities and fourteen counties. In each city visited lectures on tuberculosis will be given and a Christmas seal committee organized, to take charge of the holiday work of the association.

MARYLAND

Baltimore

Personal.—Drs. William H. Pannebaker and J. George Schmetzer, who have been ill with typhoid fever, have recovered.——Dr. and Mrs. Henry O. Reik and Dr. A. J. Neilson have returned from Europe.

Hospital Association Organized.—A hospital association has been organized by the citizens of Highlandtown and Canton for the purpose of establishing a hospital for these suburbs. The capital stock is $30,000.

Medical Inspection of Public Schools.—The health department announces that the medical inspection of the public schools will commence next week. The inspection of the parochial schools, which commenced October 1, is almost finished.

MASSACHUSETTS

Surgical Instructors Resign.—It is announced in the daily press that Dr. David D. Scannell, chief surgeon at the Boston City Hospital has resigned as professor of surgery in Tufts College of Medicine, Boston, and that every instructor in the surgical department of the school has also resigned, as a protest against what they term a gross slight inflicted on Dr. Scannell.

Septic Sore Throat.—At the meeting of the Suffolk District Medical Society, October 28, Prof. C. E. A. Winslow of New York who has made a most careful study of the epidemic which was so serious in Boston, Brookline and Cambridge last May, asserted that it was a disease new in this part of the world. It is of frequent occurrence in England and is named by him "septic sore throat." This epidemic apparently started in Hudson, Marlboro and Southboro and was almost certainly conveyed to Boston by the milk-supply. The experts who spoke at the meeting were agreed that the only safeguard against other outbreaks is in the pasteurization of the milk. The mortality of the epidemic studied reached more than fifty, largely among old people.

MICHIGAN

Medallion Presented.—At the meeting of the Wayne County Medical Society, October 21, Frank Buttrick presented to the society a medallion of the late Dr. David Osborne Farrand, a member of the society, who died in 1883.

Physicians Adopt Auto-Shield.—A shield with a background of bright red and the cross of St. George deeply outlined in black in the center, was the device adopted by the Wayne County Medical Society, October 30, as a distinguishing mark for physicians' automobiles. In the center of the cross appears the registered number of the physician.

Personal.—D. E. McClure, Muskegon, has been appointed deputy superintendent of the State Board of Health, vice Dr. E. L. Ward, resigned.——Physicians of Grand Rapids gave a banquet, October 26, in honor of Dr. Joseph Bascom Griswold, who has been a practitioner of Grand Rapids for forty years. Dr. Eugene Boise presided as toastmaster.——Drs. Frank W. Garber and George L. Le Fevre, Muskegon, have returned from Europe.——Dr. Victor C. Vaughan, Ann Arbor, has returned after a summer spent in Germany.——Drs. William A. Lemire, Michael P. Fenelon and Arthur S. Kitchen, all of Escanaba, have been elected official physicians of the Delta County Hospital and county physicians.——Dr. Abraham Goodfellow, Clio, suffered a cerebral hemorrhage, October 8.

MINNESOTA

Personal.—Dr. Robert Retzer has been appointed assistant professor of anatomy in the University of Chicago.——Dr. William Frisbie Lewis, Mankato, celebrated his eighty-second birthday anniversary at his home in Palo Alto, Cal.

Appropriations for Sanatorium.—The commissioners of Otter Tail County have appointed a committee to ascertain the cost, prepare plans and select a site for a county tuberculosis sanatorium, for which from $6,000 to $10,000 is to be appropriated.

Physicians' Building.—The Lowry Building, Minneapolis, a thirteen-story structure, providing for twenty-four office sections on each floor, is practically completed and tenants are already beginning to move in. The building is designed entirely for the use of physicians and dentists.

Society Meeting.—At the annual meeting of the Mower County Medical Association held in Austin, October 11, Dr. Ernest V. Smith, Adams, was elected president; Dr. G. M. Frank Rogers, Austin, vice-president; Dr. Peter T. Torkelson, Lyle, secretary; Dr. George J. Schottler, Dexter, treasurer, and Dr. Ralph S. Mitchell, Grand Meadow, delegate to the state association.

NEBRASKA

Typhoid Epidemic in Lincoln.—On account of the prevalence of typhoid fever in Lincoln, the local health authorities have requested aid from Washington and Passed Assistant Surgeon Leslie L. Lumsden, U. S. P. H. and M.-H. Service, who was detailed to go to Lincoln and make investigation into the epidemic and its causation, is now there conducting the investigation.

Personal.—Dr. Abraham T. Hubbell, Wood River, who has been seriously ill with erysipelas, is convalescent.——Dr. John B. Lichtenwallner, Dunbar, was given a farewell banquet, October 27, on the occasion of his leaving to settle in Omaha.

Republican Valley Physicians Meet.—The annual meeting of the Republican Valley Medical Association was held at Alma, October 26. The society decided to hold its next meeting in Holdrege in May, 1912, elected Dr. Robert S. Mitchell, Red Cloud, president, and Dr. Henry Farrell, Axtell, vice-president, and reelected Dr. Joseph N. Campbell, Stamford, secretary, and Dr. William D. Shields, Holdrege, treasurer.

NEW YORK

Hospital to be Sold.—Hempstead Hospital, Mineola, L. I., is to be sold at auction in order to satisfy claims against the institution.

Approves Tuberculosis Hospital.—The state authorities have approved the application of the Civic League of Ossining to establish a tuberculosis hospital.

Personal.—Dr. James J. Grady, Elmhurst, has resigned to take charge of a hospital for a copper mining company in Peru, South America.——Dr. Thomas Ordway, Albany, was given an impromptu dinner by the faculty of the Albany Medical college and other friends, October 17. Dr. Ordway has been connected with the Bender Laboratory for about twenty years, but is soon to become director of the cancer research laboratory of Harvard University.——Dr. Edward F. Hurd has been elected president of the Freeport Board of Health.

New York City

Lowest City Death-Rate.—The lowest death-rate since the formation of the Greater New York in 1898 was reported for the week ended October 28, the rate for this week being 12.12 per 1,000 population, while the rate for the corresponding week of 1910 was 13.53.

New Laboratory Building.—Roosevelt Hospital has had a laboratory under an endowment given by Mrs. E. H. Harriman for the past two years. Recently Dr. Lewis R. Morris offered to erect a suitable building for laboratory work and such a building will be erected in the center of the Roosevelt Hospital premises. Dr. William Gordon Lyle is to have charge of the new institution.

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Physicians' Building.—The Lowry Building, Minneapolis, a thirteen-story structure, providing for twenty-four office sections on each floor, is practically completed and tenants are already beginning to move in. The building is designed entirely for the use of physicians and dentists.

Society Meeting.—At the annual meeting of the Mower County Medical Association held in Austin, October 11, Dr. Ernest V. Smith, Adams, was elected president; Dr. G. M. Frank Rogers, Austin, vice-president; Dr. Peter T. Torkelson, Lyle, secretary; Dr. George J. Schottler, Dexter, treasurer, and Dr. Ralph S. Mitchell, Grand Meadow, delegate to the state association.

NEBRASKA

Typhoid Epidemic in Lincoln.—On account of the prevalence of typhoid fever in Lincoln, the local health authorities have requested aid from Washington and Passed Assistant Surgeon Leslie L. Lumsden, U. S. P. H. and M.-H. Service, who was detailed to go to Lincoln and make investigation into the epidemic and its causation, is now there conducting the investigation.

Personal.—Dr. Abraham T. Hubbell, Wood River, who has been seriously ill with erysipelas, is convalescent.——Dr. John B. Lichtenwallner, Dunbar, was given a farewell banquet, October 27, on the occasion of his leaving to settle in Omaha.

Republican Valley Physicians Meet.—The annual meeting of the Republican Valley Medical Association was held at Alma, October 26. The society decided to hold its next meeting in Holdrege in May, 1912, elected Dr. Robert S. Mitchell, Red Cloud, president, and Dr. Henry Farrell, Axtell, vice-president, and reelected Dr. Joseph N. Campbell, Stamford, secretary, and Dr. William D. Shields, Holdrege, treasurer.

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Hospital to be Sold.—Hempstead Hospital, Mineola, L. I., is to be sold at auction in order to satisfy claims against the institution.

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GENERAL

Railway Surgeons to Meet.—The twenty-first annual meeting of the New York and New England Association of Railway Surgeons will be held at Hotel Astor, New York City, November 16 and 17, under the presidency of Dr. Frederick A. Goodwin, Binghamton, N. Y.

Militia Men Must Pay for Typhoid Vaccination.—So many applications have been received by the War Department from national guard organizations for the supply of antityphoid serum, that it has been found necessary to abandon its free issue. A circular has been issued informing the guardsmen that hereafter they can obtain the serum at its cash value, approximately 12½ cents for each inoculation, the amount to be charged against the federal allotment of the state for the support of the militia.

Ultraviolet Rays to Purify Water.—Army surgeons in the Philippine Islands report that they have been making successful experiments with a plant consisting of a small dynamo and gasoline engine, carried in the ordinary escort wagon with troops, which has shown itself capable, by the generation of ultraviolet rays, of completely purifying foul water so as to serve daily a quart of sweet drinking water to every man in the regiment. The ultraviolet rays are said to destroy, not only the animal parasites in the water, but also bacteria.

Personal.—Lieutenant-Colonel Jefferson R. Kean, M.C., U. S. Army, has been detailed as a delegate to the International conference to be opened in Paris, November 7, and also to the meeting of the American Public Health Association in Havana, December 4-9.——Surgeon Rupert Blue and Assistant Surgeon George W. McCoy, U. S. P. H. and M.-H. Service, sailed from San Francisco, November 4, for Honolulu, Hawaii, Dr. Blue to preside over the quarantine station, and Dr. McCoy to assume command of the leprosy investigation station on the Island of Molokai.——Dr. Aristides Agramonte, Havana, sailed from New York for Holland, October 31.

Plague and Yellow Fever.—The *Canal Record*, October 25, reports a death at Ancon Hospital, October 17, from bubonic plague. The victim was a mechanic who left Ecuador, October 7, arriving in Panama four days later and was taken to the Ancon Hospital two days after his arrival. There is no probability of the disease spreading from this case.——Out of 75,000 rats killed and examined by the Seattle Health Department during the last fifteen months, only one was found to be infected with bubonic plague.——A case of yellow fever is reported from Honolulu. The patient was a Hawaiian and believed to have become infected from a Japanese steamer, which recently arrived in Honolulu from Central America.

Cooperation in the Administration of the Food and Drugs Act.—At the last meeting of the Association of State and National Food and Drug Departments at Duluth, Minn., the president, Lucius P. Brown, Nashville, Tenn., was instructed to appoint a committee to perfect plans for cooperation among state officials and national governments in the administration of the Food and Drugs Act. A committee was accordingly appointed, consisting of Dr. Samuel J. Crumbine, Topeka, Kan., for a five-year term; R. M. Allen, Kentucky, for a four-year term; R. V. Fitzrandolph, New Jersey, for a three-year term; L. Davies, Washington, for a two-year term, and Dr. A. N. Cook, South Dakota, for a one-year term. In accordance with the resolutions adopted at this convention that a committee be appointed to study the subject of cold storage and draft a measure incorporating in its provisions just and reasonable regulations for the operation of cold storage warehouses and the storage of foodstuffs therein, the president appointed a committee consisting of H. E. Barnard, Indianapolis; R. B. Fitzrandolph, Trenton, N. J.; Miss Mary E. Pennington, of the Department of Agriculture, Washington; M. E. Jaffa, Berkeley, Cal., and Hon. W. B. Barney, Des Moines, Ia. The officers have announced their desire to make the organization's influence felt as a factor in the enforcement of food laws and that they stand with Dr. Wiley for this platform.

LONDON LETTER

(From Our Regular Correspondent)

London, Oct. 28, 1911.

The Effects of the Great Railway Strike on the Public Health

The great railway strike which paralyzed traffic for some days on most of the lines in this country has been mentioned in a previous letter. Its detrimental effect on the public health of one of our greatest cities can now be estimated. Before the strike Liverpool, with an estimated population of 747,000, showed in recent years, in consequence of improved sanitation, great improvement in the death-rate from summer diarrhea in infants. During the past summer the rate has been extraordinarily low. During the five years, 1906-10, the average temperature in July was 58.9 F.; the average deaths from diarrhea in the four weeks of the month, 4, 6, 9 and 11, and the general death-rate for each week was 15 per thousand of the population. For the four weeks in August the average temperature was 59.5 F. and the deaths from diarrhea were 23, 34, 52 and 63, and the general death-rate 19. In the present year the average temperature was 64.1 F. and the average deaths from diarrhea 20, 23, 38 and 46, and the general death-rate ranged from 15 to 18. In August the average temperature was 68.8 F. and hardly any rain fell. This probably accounts for the fact that there were eighty-one deaths from diarrhea during the first week and that the general death-rate rose to 20. On August 5, strike troubles began and they reached their acme on the 17th. The sanitary service was interrupted, garbage accumulated, and the food-supply was seriously diminished. The consequences are shown by the statistics. For the second week in August there were 132 deaths from diarrhea and the general death-rate rose to 24 per thousand of the population. During the third week there were 159 deaths from diarrhea and the general death-rate was 27. With the restoration of the sanitary service the figures fell but remained high during September, when the deaths from diarrhea in the four weeks were 148, 130, 109 and 112. During the strike 300 butchers' shops were closed because they could not obtain meat and the interruption of the milk-supply had an immediate effect on infants. Even the hospitals suffered, although the strike committee endeavored to secure for them delivery of supplies.

The National Insurance Bill

The contest between the profession and the friendly societies on the national insurance bill continues. Mr. Lloyd-George, the chancellor of the exchequer, who has always shown great skill in assuaging quarrels and harmonizing conflicting interests, arranged a conference between six representatives of the British Medical Association and representatives of the friendly societies, at which he presided. The proceedings lasted two and one-half hours and an understanding was arrived at that they were to be kept private but the following has transpired: The societies objected to the fixing of the income limit by the health committee (described in a previous letter to The Journal). They asked for the right to form local medical associations, such as already exist in certain towns, and asked for an assurance that the medical profession would not endeavor to ostracize the doctors engaged by such associations. They also asked that insured persons should be entitled to have the personal attendance of the doctor desired and not be forced to accept the services of his assistant. The representatives of the British Medical Association stated that they had no authority to enter into an arrangement of any kind and that they could hold out no hopes of departure from the six cardinal points of policy declared (described previously in The Journal). Many members of the profession disapprove of taking part in the conference.

The Medical Equipment of Merchant Ships

A committee appointed by the board of trade, at the request of the General Shipowners' Society of London to consider the medical scales for merchant ships, has recommended four revised scales in place of those now in use. For ships which will carry a medical officer, including emigrant ships, two scales are recommended—one for the North Atlantic, where voyages are short and the numbers of passengers and crew large; the other for ships with fewer passengers which go on longer voyages. For each of these classes a list of the necessary instruments, including a sterilizer large enough to take a long midwifery forceps, is given. A microscope and bacteriologic outfit, such as are required in the larger vessels of some foreign countries, have not been recommended. The instrument and appliances for clinical work have been modernized. The appointment of a second medical officer to ships carrying a crew and passengers amounting to 1,500 is recommended, as well as a dispenser. The other two scales are for vessels which do not carry a medical officer and for fishing boats. One scale applies to ships whose voyages ordinarily last more than five days; the other, named an emergency scale, is for vessels never more than five days away from harbor, and applies to all sea-going ships; but coasting craft, whose voyages last no more than twenty-four hours, may conform to the emergency scale or carry the ambulance hamper of the St. John Ambulance Association. Antidiphtheritic serum, sealed and dated, is to be carried by all emigrant ships. The need for separate and reserved accommodation in cargo vessels for men who may become ill or injured is pointed out.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Oct. 20,1911.

Dedication of a Monument to Michael Servetus

A monument, the third in France, was dedicated on October 15, to the memory of Michael Servetus at Vienne, department of l'Isère. Servetus is shown at the stake in the midst of flames, chained to a stone, his book bound to his side. In this book entitled, *Christianismi restitutio*, Servetus described for the first time the lesser circulation of the blood. Dr. Charles Richet, professor of physiology at the Faculté de médecine de Paris, who represented the University of Paris at the ceremony, said that the divination of the pulmonary circulation by Servetus, who, unlike Harvey, had done no vivisection, and who, unlike Vesalius, had done no dissection, was unparalleled —almost a miracle. The contemporaries of Servetus did not understand him and his discovery remained unknown. Seventy-five years had to pass before Harvey gave it a rigorous demonstration and forced recognition.

The Catastrophe of the "Liberté" and Microbes

The causes of the terrible catastrophe which destroyed the "Liberté," one of the finest vessels of our navy, are not yet established. Among the opinions of various specialists it is interesting to mention one, according to which the gun-cotton, technically known as powder B, should be considered, not only from the chemical but from the microbiologic point of view. For the chemist, the nitrification of cotton consists in making it an explosive; for the microbiologist, it is sterilizing it. If the nitrification of the cotton is incomplete, this is unimportant from the chemist's point of view, for the explosive still exists, while the microbiologist sees in the parts not nitrified a developing culture of microbes. In fact, powder B does not preserve its qualities indefinitely; it grows old; its homogenous and translucent aspect is darkened by spots which become concave and finally give forth oily exudations. These are the manifestations of the activity of certain anaerobic microbes which produce a series of gaseous bodies whose presence in air-tight receptacles may finally cause the explosion of the powder.

Sterilization of Water by Ultraviolet Rays

Drinking-water for Paris is ordinarily supplied from four derivations of spring-water, which are supplemented, when necessary, by filtered river-water. Lately the filtered waters have been treated sometimes by ozone, sometimes by ultraviolet rays. These experiments permit a comparison of the two procedures. The bactericidal action of ultraviolet rays is very powerful. To separate the ultraviolet rays from the red, green and yellow ones, the mercury-vapor lamp in transparent quartz, intended for illumination, was employed. The system devised by MM. Victor Henri, Max de Recklinghausen and André Helbronner is remarkably simple, requiring no complicated machinery. A slight electric current accomplishes the work, which is hygienically thorough. If the electric current is accidentally interrupted, an automatic sluice opens the conduit and empties the water which has not undergone sterilizing action. The operation of this apparatus is economical, as was shown in the results of a competition held last year by the city of Marseilles.

Death of M. Alfred Binet

Psychologic science has just experienced a great loss in the person of M. Alfred Binet, *docteur ès sciences*, director of the laboratories of physiologic psychology at the Hautes Etudes à la Sorbonne, who has died, aged 54. He was the author of numerous works on psychology, including "Alterations of the Personality," "The Soul and the Body," "The Revelations of Handwriting," etc. Binet gave this science a direction altogether personal and original with himself. He founded the *Année psychologique*. He took especial interest in pedagogical questions and recently published a book entitled, "Modern Ideas in Regard to Children." He was the president of the Société pour l'étude psychologique de l'enfant.

The Assassin of Dr. Guinard

Herrero, the assassin of Dr. Guinard, committed suicide recently in prison. He had previously made two unsuccessful attempts at suicide.

Death of Prof. Antoine Blatin

Dr. Antoine Blatin, former professor of physiology at the Ecole de médecine de Clermont, has just died, aged 72.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Oct. 19, 1911.

Personal

The Breslau anatomist, Professor Hasse, celebrated his 70th birthday, October 17. He has been regular professor in Breslau since 1873.

Professor M. Hahn of Munich has received a call to Königsberg as director of the hygienic institute.

Professor Kehrer of Bern, the son of the well-known gynecologist of Heidelberg, has been called to the directorship of the gynecologic clinic at Dresden, as successor of Professor Leopold. As Kehrer's successor there have been proposed Professor Baisch of Munich and Professor H. W. Freund of Strasburg.

Foundation for the German Society for the Advancement of Science

The Gesellschaft deutscher Naturforscher und Aerzte has just received an endowment, the Adelaide Bleichroeder fund of $25,000 (100,000 marks). The foundation is for the assistance of scientific work in the field of medicine, including the ancillary sciences. As the entire fund is to be distributed in thirty years, an annual sum of about $1,500 (6,000 marks) will be available. Among the competitors, those who have no official posts or are not connected with well endowed institutions shall be preferred.

German Institute for Foreigners

Following the suggestion of the deceased Althoff, a German institution for foreigners, like the institution in Göttingen which I have previously told you about, has been founded in Berlin, with means provided by privy councilor Böttinger. The purpose of the institution is to furnish educated foreigners who are residing temporarily in Berlin an intellectual headquarters for their studies and an introduction to the study of German civilization. In addition courses in speaking German and introductory lectures on German literature and art have been provided. Visits to the art treasures of Berlin and excursions to other seats of culture in Germany will be made. The bureau is located at 8 University Street, Berlin, and is open to foreigners daily from 2 to 4 p. m.

Collective Investigation of Round Ulcer of the Stomach

A number of Bavarian university teachers and physicians have instituted a collective investigation of the etiology and clinical course of ulcer of the stomach. The request is made that material from operations and necropsies be sent to the pathologic institute in Erlangen with a filled out question blank giving the clinical data of the operated cases of those controlled by section. The anatomic material is to be examined by Professors Hauser and Merckel, the clinical by v. Angerer, v. Bauer, Borst, Crämer, Enderlen, Graser, v. Leube, F. V. Müller and Penzoldt. Question blanks and further information can be obtained from Prof. Hauser of Erlangen, Prof. N. Merckel of Erlangen and court councilor (Hofrat) Cramer of Munich.

Spitting in Railroad Cars

While spitting is forbidden in the street cars of Berlin and other places and in foreign railway cars, such a prohibition has not yet been made on the German railroads. At the request of the management of the railroads, the scientific deputation for medical affairs made an expert report regarding the necessity of such a prohibition. The results of the investigation undertaken by the former hygienist of Graz, Professor Prausnitz, and Petri, a member of the imperial health office, on the railway cars which run between Berlin and Meran and are patronized by *many consumptives, showed that there is no regular* or even frequent presence of tubercle bacilli, capable of causing infection, in the dust of railway cars. Furthermore the investigations of Flügge have shown that the danger from the inhalation of dried sputum is not very great, and is far less important than the danger from the so-called *droplet infection.* Still the scientific deputation holds that spitting on the floor and the possibility of soiling it in this way with tubercle bacilli should by all means be prevented. The instruction of the public by warning notices is thoroughly justified as the evil produced by spitting in a confined space is very great. It should also be required that the employees of the company enforce the regulations against travelers who transgress them. In this respect the measures in force in many localities, especially on foreign roads, leave much to be desired. For instance in the Italian railway cars the floor is soiled with spitting since expectoration has been prohibited as much as before the regulations against this were adopted.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Oct. 24, 1911.

Opening of the Radium Institute of Joachimsthal

At Joachimsthal, a Bohemian mining place, the government has erected an institute which is to be devoted entirely to the use of radio-active substances for medical purposes. It is well known that the startling discoveries of Becquerel and Curie in Paris were made on uranium obtained from material found in the mines of Joachimsthal. Soon afterward exhaustive researches in the mother substance in Joachimsthal showed the water found in the mines to be the most radioactive natural water in the world. A private syndicate was soon organized for the purpose of exploiting this natural resource; but public opinion forced the government to assume control of the affair and to erect a *Curanstalt*, a therapeutic institution, accessible to all classes of the population. From the material obtained in these government mines—in old *days they yielded a fair amount of silver, too—a large quantity* of radium bromid could be manufactured, and in the institute all kinds of treatment by radio-active substances will be given. The building was recently opened; it contains radio-active baths, a large quantity of the radium salts, and will be open all the year round. *By pipes the water is drawn* into the baths directly from the bottom of the mines, and filtered in such a way that it does not lose anything of its activity. The institution is in charge of an expert medical radiologist from the Vienna University.

Turbulent Demonstrations Against Inadequate Institutes

The Anatomical Institute of Vienna was erected some twenty-five years ago in a street which at that time was in the suburbs; the building itself was estimated to accommodate some 200 students. During the last twenty-five years, however, the number of medical students has increased in such a degree, and the popularity of the professors of the institution has been so marked, that the lectures are exceptionally crowded, and the building is insufficient for the acommodation of the large number of students eager to gain the fundamental knowledge of our art. In the dissecting-room only 200 chairs are available, while more than 500 students are at work at the same time and not all of these can find place at the dissecting tables. Even the facilities for washing the hands are on a scale which would hardly have been accepted a quarter of a century ago. Ventilation is very bad, for, owing to the rapid development of the suburb, the building is now surrounded by other buildings, and the windows cannot be opened whenever it would be required. Therefore the indignation of the students and the teaching staff of the university was strong when; a few years ago, a demand for improvement of the conditions was frustrated by the government for lack of means. This year, at the opening of the winter term, the students at once started a turbulent demonstration and, assuring the professor, Dr. Tandler, that the riot was not directed against him, began to disturb the lectures to cause a "strike." The professor sympathized with the students, went with them to the rector of the university, and a deputation was sent to the minister of education in order to demand the funds necessary for the removal of the worst grievances. They were granted money for a sufficient number of chairs, tables, washing apparatus and wardrobes for the cloak-rooms. The chief source of discontent, however, is the site of the institution itself and this cannot be changed at present.

Marriages

Clara O. Dedrick, M.D., De Tour, Mich., and Mr. W. W. Dunham of Drummond, Mich., at Sault Ste. Marie, Mich., October 18.

Harry V. Thomas, M.D., Chillicothe, Ill., to Miss Jane Neff of Oklahoma City, Okla., at Kansas City, Mo., October 15.

Carlisle E. McKee, M.D., Braddock, Pa., to Miss Ethel Eleanor Sutmeyer of Wilkinsburg, Pa., October 19.

Henry Clarke Thacher, M.D., New York City, to Miss Ethel Anderson of Washington, D. C., October 21.

Andrew S. Reisor, Jr., M.D., Shreveport, La., to Mrs. Blanche Locke of DeQueen City, Ark., October 18.

Arthur H. Estabrook, M.D., Leicester, Mass., to Miss Jessie McCubbin, at Mt. Washington, Md., October 25.

John Douglas, M.D., New York City, to Mrs. Elizabeth Thayer Hoag of Washington, D. C., October 24.

Miller M. Harshbarger, M.D., St. *Anthony, Ida., to* Miss Grace Campbell of Valier, Mont., October 18.

Emil C. Robitshek, M.D., Minneapolis, Minn., to Miss Leonora Millhauser of Chicago, November 1.

Sparrell S. Gale, M.D., Roanoke, Va., to Miss Gretchen Harding of Canon City, Colo., October 17.

Howard H. Shepler, M.D., Philadelphia, to Miss Ethel F. Heyser of Hagerstown, Md., October 24.

Alexander B. Kalbaugh, M.D., to Miss Rosalie Morrison, both of Westernport, Md., October 12.

Joseph W. Preisinger, M.D., Renville, Minn., to Miss Ella Wigdahl of Crooks, Minn., October 8.

Woodson J. Moss, M.D., to Mrs. Luella Wilcox St. Clair, *both of Columbia, Mo., October 22.*

W. L. Breyfogle, M.D., to Mrs. Ella Naomi Pierce, both of Lake George, N. Y., October 14.

Oscar Paul Chester, M.D., to Miss Florence Cathryn Griffin, both of Chicago, October 18.

William B. Kunze, M.D., to Miss Eugenia Eimer, both of Belleville, Ill., October 18.

Roy F. Bellaire, M.D., Le Mars, Ia., to Miss Mary Ramsay, of St. Louis, recently.

Deaths

Agrippa Nelson Bell, M.D. Jefferson Medical College, 1842; founder of *The Sanitarian* in 1873 and its editor until 1904; a member of the American Public Health Association and American Climatological Association; president of the American Congress on Tuberculosis, 1901-2, and honorary president of the International Congress of Tuberculosis in 1904; passed assistant surgeon U. S. Navy from 1847 to 1855 with service during the Mexican War; a medical officer of the navy during the Civil War; superintendent of the Floating Hospital for Yellow Fever Patients, New York City, 1861; from 1870 to 1875 inspector for quarantines for the National Board of Health; a member of the National Quarantine Convention from 1857 to 1860; commissioner of quarantine of New York from 1870 to 1873; for twenty-one years visiting physician to the Brooklyn Hospital; died at his home in Brooklyn, October 15, from senile debility, aged 91.

George Frederick Jelly, M.D. Harvard Medical School, 1868; a member of the American Medical Association and American Medico-Psychological Association; a member of the Massachusetts State Board of Insanity and for many years chief examiner of the insane for the city of Boston; from 1869 to 1871 assistant city physician at the McLean Hospital, Waverly, and from 1871 to 1879 superintendent of that institution; first chairman of the Massachusetts State Board of Insanity; whose services were extensively sought as a consultant and medical expert in nervous and mental diseases; consulting physician to the New England Hospital for Women and Children; died at his home in Wakefield, October 24, from nervous breakdown, aged 69.

John W. Warner, M.D. Albany (N. Y.) Medical College, 1847; a member of the Medical Society of the State of New York; for more than fifty years a practitioner of New York City, but since 1898 a resident of Saratoga Springs; died at his home in that place, October 23, aged 88.

Wooten Moore Wilkerson, M.D. University of Virginia, Charlottesville, 1879; New York University, New York City, 1880; a member of the American Medical Association; once president of the Medical Association of the State of Alabama, and at the time of his death chairman of the committee of health for Montgomery County; visiting physician to St. Margaret's Hospital, Montgomery; a trustee of the Bryce Insane Hospital and president of the Montgomery County Board of Health; died at his home in Montgomery, October 22, from heart disease, aged 53.

Harvey E. Williamson, M.D. Keokuk (Ia.) Medical College, 1894; a member of the Kansas Medical Society; local surgeon of the Frisco System and Missouri, Kansas and Texas Railway, at Olathe; surgeon to the deaf and dumb institution of Kansas, Olathe; who five years ago had the misfortune to be thrown from, and run over by a street car in Kansas City, the injury necessitating the amputating of both feet; died at the home of his parents in Clarinda, Ia., October 23, aged 42.

John Reese Uhler, M.D. University of Maryland, Baltimore, 1861; one of the founders of Baltimore Medical College and for several years professor of chemistry and surgery in that institution; surgeon of the Fifth Maryland Volunteer Infantry during the Civil War; one of the founders and once president of the Baltimore Medical Association and one of the founders of the Clinical Society of Baltimore; died at his home in Baltimore, October 9, from nephritis, aged 72.

Samuel Alexander Helfer, M.D. New York University, New York City, 1875; a member of the Medical Society of New Jersey; in 1895 city physician and a member of the board of health of Hoboken; for many years physician to the steamship companies whose docks are in Hoboken; senior member of the board of trustees of the Hoboken Board of Trade; died at his home, October 24, from diabetes, aged 67

Mathias William Dvorak, M.D. College of Physicians and Surgeons, Chicago, 1903; a member of the State Medical Society of Wisconsin and secretary for two terms and up to the time of his death of the La Crosse County Medical Society; a beloved and highly respected young physician of La Crosse; died in St. Francis Hospital in that city, October 19, from typhoid fever, aged 31.

W. R. Hurst, M.D. Western Reserve University, Cleveland, 1862; a member of the Ohio State Medical Association and for nearly fifty years a practitioner of Piketon; died in the Protestant Hospital, Columbus, October 24, two days after a surgical operation, aged 74.

Nelson E. Bradley, M.D. Medical College of Ohio, Cincinnati, 1882; for many years a practitioner of Felicity; formerly a member of the local U. S. pension examining board; died at his home near Batavia, O., October 22, from heart disease, aged 53.

James H. Gaston, M.D. Miami Medical College, Cincinnati, 1872; a veteran of the Civil War; from 1888 to 1890 treasurer of Monroe County, Ind.; died at his home in Axtell, Kan., October 11, from heart disease, aged 67.

William A. H. Jenner, M.D. University of Munich, Germany, 1872; a member of the Washington State Medical Association, and a pioneer practitioner of Seattle; died recently and was buried October 15, aged 67.

Willard B. Croft, M.D. Cleveland University of Medicine and Surgery, 1882; a specialist on diseases of the eye, ear, nose and throat, of Medina, O.; died at his home, August 26, from leptomeningitis, aged 55.

Charles A. Butner, M.D. University of Louisville (Ky.), 1885; a member of the Medical Association of Georgia; died suddenly at his home in Jackson, October 16, from acute gastritis, aged 52.

William Curry, M.D. Jefferson Medical College, 1895; a member of the Butler County (Pa.) Medical Society; died in Butler, Pa., October 11, after an operation for right pyonephrosis, aged 40.

William Graham Armstrong, M.D. Medical College of Ohio, Cincinnati, 1882; formerly of Flemingsburg, Ky.; died at his home in Lantana, Fla., March 4, from pulmonary tuberculosis, aged 50.

Forrest B. Seymour, M.D. Medical College of Ohio, Cincinnati, 1889; a member of the State Medical Association of Texas; died at his home in Beeville, October 7, from nephritis, aged 45.

Peter Fehr, M.D. Cleveland College of Physicians and Surgeons, 1896; a member of the Ohio State Medical Association; died at his home in Akron, October 21, from tuberculosis, aged 44.

George Joshua Atkins (license, North Carolina, 1894); of Newell; a member of the Medical Society of the State of North Carolina; died in Charlotte, N. C., July 18, from uremia, aged 57.

John Jessiah Bilheimer, M.D. Jefferson Medical College, 1891; formerly a member of the American Medical Association; died suddenly at his home in Priceburg, Pa., October 19, aged 42.

Henry George, M.D. Detroit College of Medicine, 1887; physician of Wayne County in 1896 and 1897; died at his home in Detroit, October 15, from cerebral hemorrhage, aged 51.

Charles Christian Fredigke, M.D. College of Physicians and Surgeons, Chicago, 1887; of Chicago; died at the Alexian Brothers' Hospital in that city, October 21, aged 72.

Winfield Taylor Browning, M.D. Bellevue Hospital Medical College, 1873; for several terms burgess of Orbisonia, Pa.; died at his home, October 16, from diabetes, aged 63.

Theodore Lavilvarasse, M.D. St. Louis College of Physicians and Surgeons, 1896; of Boston; died in the Boston City Hospital, Oct. 25, 1910, from pulmonary tuberculosis.

Luther Leonidas White (license, Randolph County, Ala., 1879); of Roanoke, Ala.; died in Springfield, Ala., April 22, 1910, from angina pectoris, aged 58.

Harman Yerkes Longacre, M.D. University of Michigan, Ann Arbor, 1876; died at his home in St. Charles, Ill., October 18, from hemorrhage, aged 56.

I. M. Hightower, M.D. Georgia College of Eclectic Medicine and Surgery, Atlanta, 1889; died at his home in Cartersville, Ga., October 11, aged 47.

Everett F. Harrington, M.D. Lincoln (Neb.) Medical College, 1902; died at his home in Watertown, S. Dak., October 6, from heart disease, aged 50.

William L. Gibson (license, Arkansas, 1903); a practitioner of Craighead, Ark., since 1882; died at his home in Greenboro, October 13, aged 55.

Robert Lee Caldwell, M.D. Washington University, St. Louis, 1899; died at his home in Grove, Okla., February 21, from septicemia, aged 44.

Joseph Werthner, M.D. Miami Medical College, Cincinnati, 1882; of Burdick, Kan.; formerly of Dayton, O.; died in Elmo, Kan., October 20.

William G. Johnson, M.D. University of Pennsylvania, Philadelphia, 1870; died at his home in Farmington, N. C., October 14, aged 67.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

OZONIZED TESTIMONIALS

Obtaining Clinical Reports on "Oxyoline Therapy"

A few weeks ago we called attention to the method adopted by the proprietor of a medical journal in obtaining testimonials favorable to products advertised in his publication. As will be remembered, the method consisted in sending out letters to his subscribers telling them how highly he, the proprietor, valued the products and asking physicians if they would not "cooperate" by writing their opinion of the same products. A crude modification of this method of obtaining testimony favorable to products advertised in medical journals has recently been called to our attention.

The *American Journal of Physiologic Therapeutics* is the somewhat imposing title of a publication that is said to be "a practical journal of progress in non-medicinal therapy." Incidentally, the advertising pages of this non-medicinal publication are devoted largely to medicinal products! The proprietor of this journal is also the proprietor of another journal which is said to be "a journal of commercial medicine." Both of these journals carry advertisements—large ones—of a device known as the "Oxyoline Apparatus," which is supposed to depend for its action mainly on its ability to produce ozone. Moreover, the proprietor of these journals is understood to be the advertising agent for the concern that exploits this "apparatus!" What the Oxyoline machine will not do in the way of abolishing or preventing disease is negligible—if the claims of the promoters are to be believed, which they are not. So much by way of explanation.

Three weeks ago,[1] in commenting on "The Alleged Hygienic Value of Ozone," we seem to have hurt "business"—advertising and other. At any rate, the following letter from the publisher and editor of the *American Journal of Physiologic Therapeutics* has been received by physicians:

> October 27, 1911.
>
> *My dear Doctor:*—I have just read a most remarkable editorial in The Journal A. M. A., Oct. 21, 1911, page 1370, entitled "The Alleged Hygienic Value of Ozone."
>
> Does your clinical experience prove this or not? I am tempted to make a "big stir" regarding this wholly unwarranted attack on Ozone, and I am very anxious to produce an interesting symposium on Ozone in the next issue of *Physiologic Therapeutics*. Will you not send me four or five hundred words for publication, giving your personal opinion regarding this matter as based on your own clinical experience?
>
> If, in your reading, you have found any articles on this subject or any clippings relating to Ozone or Oxyoline therapy, and you can send them along, I will be very grateful indeed, and in remuneration for your cooperation will be pleased to give you a one year's subscription to *Physiologic Therapeutics* or a five years' subscription to *Successful Medicine*.
>
> I await your prompt reply, and, to facilitate this, a self-addressed, stamped envelope is enclosed.
>
> Very cordially yours,
> Physiologic Therapeutics
> *Henry R. Harrower*,
> Managing Editor.

The *quid pro quo* is perfectly evident. Stated a little more baldly this letter seems to mean: "Send us a testimonial on the 'Oxyoline Apparatus' and we will give you a year's subsubscription to our journal." The arrangement must be an eminently satisfactory one. The advertiser is "boosted"; the advertising agent—the editor and publisher in this instance—gets more business; the original article department of the journal is cheaply and easily filled; the subscription list is boomed with what the postal authorities we presume will consider *bona fide* subscribers, and altogether it is a very admirable arrangement—for everyone except the public and the medical profession.

Those physicians who read Mr. Irwin's admirable series of articles on "The American Newspaper" doubtless had their indignation aroused when they learned that certain large metropolitan dailies would have their dramatic critics write fulsome puffs of current theatrical attractions on the tacit understanding that the theatrical company would purchase large advertising space. And yet this exhibition of venality only affected the public's pocketbook; it in no way jeopardized its health. Of course, such dramatic criticism is a farce; but what about "scientific criticism" of therapeutic agents that is purchased at the price of a subscription to a medical journal by those who are financially interested in the exploitation of such agents?

CINERARIA MARITIMA

Report of the Council on Pharmacy and Chemistry

Occasional inquiries in regard to the therapeutic value of *Cineraria maritima* caused the Council to consider the drug with reference to its fitness for inclusion in N. N. R. among non-official, non-proprietary remedies. The following report, having been submitted to the Council by a subcommittee, was adopted and its publication authorized.

W. A. Puckner, Secretary.

To the Council:—The juice of a plant referred to as *Cineraria maritima* was at one time supposed to be of value in the treatment of cataract and certain other affections of the eye. No scientific evidence is available to show that the drug is therapeutically active, and its value is no doubt correctly estimated by Dr. Casey Wood, who ("Ophthalmic Therapeutics," p. 446; Cleveland Press, Chicago, 1909) says:

> "Still, a few respectable names have been associated with its [*Cineraria maritima*] employment in that capacity and it only remains to be said that the instillation into the conjunctival sac of a preparation of this or any other member of the *Senecio* family has about as much effect on the resolution or dispersal of opacities due to organic changes in the lens as pouring the same down the back of the patient's neck!"

The plant from which *Cineraria maritima* juice is claimed to be prepared is commonly referred to in literature as *Cineraria maritima*, but is more correctly described as *Senecio cineraria*, D. C.

It may be considered a matter of indifference whether a remedy like this be advertised for the treatment of such disease as cataract, providing its application could do no harm, but it must be remembered that it is recommended also for other diseases of the eye in which its use, by postponing efficient treatment, would be the means of serious damage or even loss of vision.

Since there is no evidence to show that this drug is of any therapeutic value, it is recommended that it be not admitted to the list of non-official, non-proprietary remedies in N. N. R., and that the Council formally express its opinion that the drug, as judged by the evidence which is available, is without value in the treatment of cataract or similar diseases of the eye.

Editorial Comment: *Cineraria maritima* would long since have been relegated to the limbo of discarded and discredited drugs had it not been given a semiproprietary character by a St. Louis nostrum house—the Walker Pharmacal Company—which, like the Manola Chemical Company, is, we understand, practically a subsidiary concern of the Luyties Homeopathic Pharmacy Company. The Walker concern exploits this drug under the name Succus Cineraria Maritima (Walker). Its method of exploitation consists in publishing testimonials, which it dignifies with the name "clinical reports," from men whom it designates as "representative physicians." As indicative of what constitutes representative physicians, we find that of the seven testimonials given in their pamphlet the names of three of the signers are not to be found in any medical directory.

The exploitation of Succus Cineraria Maritima (Walker) is the oft-repeated story of the resurrection of discarded and worthless drugs for the purpose of creating proprietorship in a nostrum. *Cineraria maritima* is worthless; its therapeutic value is *nil*. By the prodigal use of printers' ink, the medical profession—and through it the public—has been humbugged into believing that it possesses curative value.

Correspondence

Leishmaniosis in China

To the Editor:—The Journal, August 12, contained an editorial on "Infantile Splenic Anemia and Kala-Azar" which is of considerable interest to me as I live in a district where leishmaniosis is common, though the positive diagnosis made by finding the parasite is comparatively recent. I am writing you because your suggestion that cases may possibly occur in America among immigrants is entirely reasonable, and our experiences may be of some use to men who are on the lookout for it.

The microscopic diagnosis is much more troublesome than that of malaria because the parasite is not always found in the circulating blood or, if it should be present, it is in such scanty numbers that the search is exceedingly tedious and it is practically useless to depend on it as a means of diagnosis. It is much more easily found in the smears made from splenic puncture, but the spleen is so friable that a number of fatal hemorrhages are reported even when great care was used, and some of the best authorities discourage the use of the method because of this danger. Puncture of the liver is less dangerous but it is also a less certain source of the parasite and long search may be necessary to find it. Even splenic punctures sometimes require a considerable time before the search is successful. The organism is said to be found in the fluid of fly-blisters and croton-oil vesicles, but not regularly, and we have failed to demonstrate *Leishmania* in the two or three cases in which this method has been tried.

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[1] The Journal A. M. A., Oct. 21, 1911, p. 1370.

During the last few months I have used successfully a plan which I have not seen described elsewhere. One of the superficial lymph-nodes, either the postcervical or inguinal, is excised under local anesthesia of quinin and urea hydrochlorid, and smears are made from its cut surface. In seven successive cases the parasite was found readily, six of the seven showing it in less than five minutes' search, the other requiring twenty minutes. From this brief experience it would seem probable that the method is quicker, more certain and less dangerous than those previously practiced.

The smears are best stained by Wright's, Leishman's or Giemsa's methods. They stain less readily than do malaria organisms in our experience, requiring longer staining; we have had good results with Leishman's stain by using the pure staining fluid for five minutes, adding the distilled water for ten or fifteen minutes and then clearing by distilled water alone for two minutes. The methyl alcohol evaporates quickly during the first step, causing precipitates and a dirty slide; this may be avoided by covering the slide with a Petri dish.

The parasites are harder to recognize than malarial organisms, as they are smaller and contain no pigment, and it is sometimes not easy to decide whether a given body is the parasite or merely detritus staining in a similar manner. Those not familiar with them would do well to compare their slides with the beautiful plate in the frontispiece of Manson's "Tropical Diseases," fourth edition.

The evidence in favor of the bedbug as a possible intermediate host not only consists in the fact that the parasite multiplies and shows the same developmental forms in the bug as are found in cultures, but also in the success that Rogers has had in preventing the disease by prophylactic measure directed against bedbugs (Rogers: "Fevers of the Tropics," p. 93.)

The two diseases to which you refer in the title of your editorial, if not absolutely identical, would seem at least very closely related. The practical identity of the symptoms and the pathology, and of the morphology of the parasite, furnishes a strong presumption in favor of the identity of the diseases. The failure which you report to culture the parasite of kala-azar continuously and the failure to inoculate dogs may be due to some slight difference in technic. Although there is a difference in the age of the individuals attacked, this is less than would appear, for Rogers (in "Fevers of the Tropics," p. 50) reports that in Assam 50 per cent. of the patients are under 20 years, and in Sylkhet 70 per cent. are under 20. There seems to be a gradual gradation in the average age of the patients in different places. Our patients are almost all children, but older than those reported by Nicolle from Tunis, being midway between them and Rogers' Indian patients. Furthermore, it is apparently true that adults may be attacked by the Mediterranean type of leishmaniosis, for two cases, one patient 18 years old and the other 30, are reported from Athens (The Journal, May 13, 1911, p. 1428).

Samuel Cochran, Hope Hospital,
Hwaiyuan Anhwei, China.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

BREEDING AND CARE OF GUINEA-PIGS AND RABBITS

To the Editor:—Have you any information relative to the care of laboratory animals, such as guinea-pigs and rabbits, their food, habits of life, diseases? I am interested more especially in the last, as our animals are not doing well. Can you give me a reference list where I can obtain this information? The ordinary books on zoology do not contain much on the care of sick guinea-pigs.

W. J. Doyle, St. Louis.

Answer.—The above letter was referred to the director of the Hygienic Laboratory of the U. S. Public Health and Marine-Hospital Service, who replies:

"At the Hygienic Laboratory we raise between 4,000 and 6,000 guinea-pigs every year and our success has been unusually satisfactory.

"First of all, a warm, sunny building should be provided, one that may be heated during cold weather. It has been our experience that if the temperature remains below 65 F. for any length of time the breeding is very much lessened and, moreover, many of the animals die. We keep four female breeders and one male in each cage. The male is allowed to remain in the cage all the time. The young are not removed from the cage until about four weeks old, when they are removed, each sex being placed in separate runs. It is important that the cages be cleaned out at least three times a week.

"The guinea-pigs are fed each day with a mixture of about equal parts of bran and oats and some green food—in the winter this is usually cabbage or carrots, during the summer alfalfa, green corn-stalks or clover. Each cage is provided with water and a small lump of rock salt. For bedding we use a small amount of cut hay; in addition to its use as bedding, the animals are fond of it. It is important that healthy stock be used for breeding purposes and that inbreeding be prevented as much as possible.

"The only diseases to which we have found our guinea-pigs liable are a streptococcic adenitis, which has given us some trouble at times; and a few years ago we lost a considerable number from a streptococcic pneumonia. A few female guinea-pigs die of postpartum infection with an organism of the hog-cholera group. Other than the above they suffer with practically no diseases. When given proper attention, their breeding is a simple and profitable proposition.

"We have raised but few rabbits at the laboratory, as we have found it cheaper to buy them on account of the cost and difficulty of raising them. They are subject to many more diseases, especially the young rabbits, than are guinea-pigs, the most important of these being coccidiosis of the intestine and liver, and pneumonia.

"The food for rabbits is the same as that given above for guinea-pigs. Both species of animals do better when kept in a warm building. We do not allow any of our animals to run outdoors. A cement floor is inadvisable."

MORTON'S FLUID

To the Editor:—Please give me the formula for Morton's fluid and state its use.

Z. Slavinski, M.D., Warsaw, Poland, Russia.

Answer.—Morton's fluid has the following formula:

℞	Gm. or c.c.	
Iodin	0|6	gr. 10
Potassium iodid	2	gr. 30
Glycerin	30	℥ 1

It was formerly employed by injection for the cure of spinal meningocele. The sac being cleaned, the child was placed on its side and a little chloroform was given. A fine trocar was plunged obliquely in at the side through sound skin, little or no fluid being drawn off, and 1 dram of Morton's fluid injected. The trocar was withdrawn and the puncture sealed with a bit of gauze and iodoform collodion.

SANITARIUM SYNONYMOUS WITH SANATORIUM

To the Editor:—Please give the proper use of the words "sanitarium" and "sanatorium" as in naming an institution for the care of the sick.

F. J. W.

Answer.—Use "sanatorium." Some make a distinction in the meaning of these two words, defining "sanitarium" as a resort for the preservation of health, and "sanatorium" as an institution for the treatment of chronic diseases, such as tuberculosis and nervous disorders. The two words are properly synonymous. The "Century" and "Murray" (the Oxford dictionary which is the court of last appeal among scholars and philologists) give "sanatorium" as the correct form; both, however, include "sanitarium" but refer to "sanatorium" for definition. "Sanatorium" is the neuter of the late Latin word *sanatorius*, meaning health-giving.

IRON SOLUTION GIVEN IN CAPSULES TO PROTECT TEETH

To the Editor:—I have noted lately in some of the medical journals discussions as to the best way to protect the teeth when giving iron. For some time now I have ordered a dropper and empty capsules to accompany the tincture, with directions to put the prescribed number of drops of the tincture in the capsule, to put on the cap and take, followed by water. In this way the teeth are not affected.

J. Lloyd Woodruff, Salt Lake City.

The Public Service

Medical Department, U. S. Army

Changes during the week ended Nov. 4, 1911.

Lake, G. B., lieut., ordered to Jefferson Barracks, Mo., during the absence of Capt. R. W. Bryan. Arrived Oct. 28, 1911.

Siler, J F., captain, granted leave of absence for one month and twelve days.

Webber, H. A., major, granted leave of absence for one month on relief from Fort Niagara.

Napier, E. L., lieut., granted leave of absence for one month, about December 1.

Smith, A. M., lieut.-col., granted leave of absence for one month, about November 5, with permission to apply for one month.

Mason, G. L., dental surgeon, October 30, left Fort Omaha, Neb., for Fort Crook, Neb.

Kean, J. R., lieut.-col., ordered to Havana, Cuba, to represent the Medical Department of the Army at the meeting of the American Public Health Association, Dec. 4 to 9, 1911.

The following named officers are detailed to represent the Medical Department of the Army at the Clinical Congress of Surgeons of North America, to be held at Philadelphia, Nov. 6 to 17, 1911: Reynolds, F. P., major; Persons, E. E., major; Reynolds, G. R., major; Williams, A. W., captain.

Borden, W. B., lieut., granted leave of absence for two months.

Fish, O. C., lieut., sick leave of absence extended one month.

Buchsbaum, Maurice, M.R.C., November 1, relieved from treatment at army general hospital, San Francisco, and ordered to his home; granted two months and three days leave of absence.

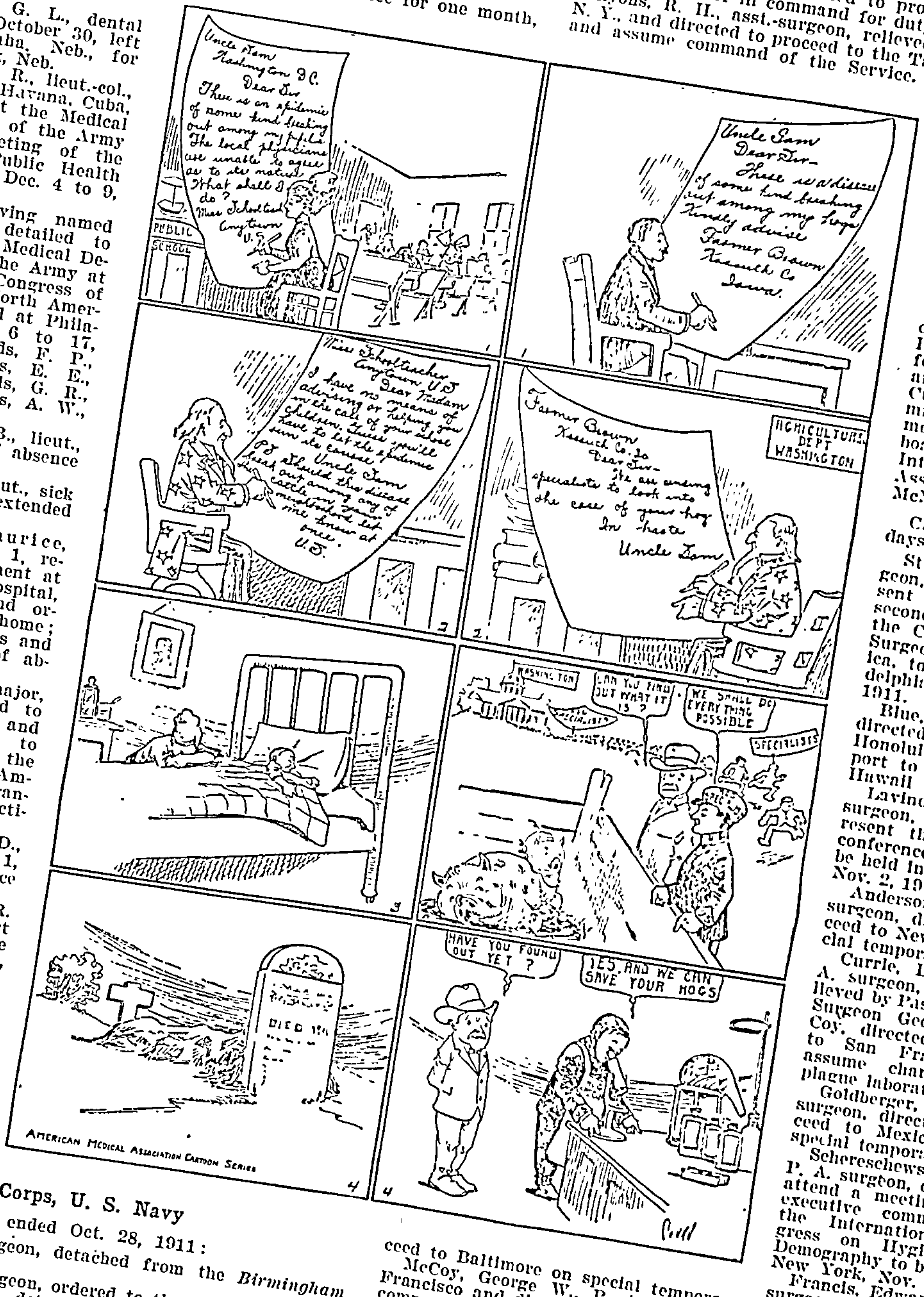
Patterson, R. U., major, November 1, ordered to proceed to Hartford and New Haven, Conn., to give instructions to the Field Hospital and Ambulance Company, Organized Militia of Connecticut.

Bloombergh, H. D., major, November 1, granted leave of absence for two months.

Whitney, W. W., M.R.C., October 30, left Fort McPherson, Ga., en route to Fort Moultrie, S. C., on detached duty.

Clark, John A., capt., November 1, relieved from duty at Plattsburg Barracks and ordered to Fort Wadsworth, N. Y.

Humphreys, Harry G., captain, November 1, relieved from duty at Fort Wadsworth and ordered to Plattsburg Barracks, N. Y.


Uncle Sam Washington D C.
Dear Sir
There is an epidemic of some kind breaking out among my pupils The local physicians are unable to agree as to its nature. What shall I do?
Miss Schoolteacher Anytown U.S.
PUBLIC SCHOOL
Uncle Sam
Dear Sir—
There is a disease of some kind breaking out among my hogs Kindly advise
Farmer Brown Kossuth Co Iowa.
1
Miss Schoolteacher Anytown U.S.
Dear Madam
I have no means of advising or helping you in the case of your school children. Guess you'll have to let the epidemic run its course.
Uncle Sam
P.S. Should this disease break out among any of cattle in your neighborhood let me know at once.
U.S.
2
Farmer Brown Kossuth Co. Ia.
Dear Sir—
We are sending specialists to look into the case of your hogs
In haste
Uncle Sam
AGRICULTURAL DEPT WASHINGTON
2
3
WASHINGTON
CAN YOU FIND OUT WHAT IT IS?
WE SHALL DO EVERYTHING POSSIBLE
SPECIALISTS
DIED
AMERICAN MEDICAL ASSOCIATION CARTOON SERIES
4
HAVE YOU FOUND OUT YET?
YES, AND WE CAN SAVE YOUR HOGS
4

Medical Corps, U. S. Navy

Changes during the week ended Oct. 28, 1911:

Brooks, F. H., P. A. surgeon, detached from the *Birmingham* and ordered to the *Marietta.*

Hough, F. P. W., P. A. surgeon, ordered to the *Franklin.*

Blackwood, N. J., surgeon, detached from the naval hospital, New York, and ordered to command the naval hospital, Canacao, P. I.

Changes during the week ended Nov. 4, 1911.

Giltner, H. A., P. A. surgeon, commissioned passed assistant surgeon from Sept. 10, 1911.

McLean, N. T., P. A. surgeon, ordered to duty at the naval hospital, New York.

Mackenzie, E. G., P. A. surgeon, detached from the naval hospital, New York, and granted sick leave for six months.

Jones, E. L., P. A. surgeon, ordered to duty at the naval hospital, Canacao, P. I.

U. S. Public Health and Marine-Hospital Service

Changes for the fourteen days ended Oct. 25, 1911:

Carter, H. R., surgeon, granted two months' leave of absence from Sept. 14, 1911, on account of sickness.

White J. H., surgeon, granted one month's leave of absence from Oct. 12, 1911, on account of sickness.

Gwyn, M. K., P. A. surgeon, relieved from duty at Baltimore, and directed to proceed to Ellis Island, N. Y., and report to Chief Medical Officer for duty.

Robertson, H. McG., P. A. surgeon, on being relieved by Assistant Surgeon R. H. Lyon, directed to proceed to Baltimore and report to medical officer in command for duty and assignment to quarters.

Lyons, R. H., asst.-surgeon, relieved from duty at Ellis Island, N. Y., and directed to proceed to the Tampa Bay Quarantine Station and assume command of the Service.

Kearney, R. A., asst. surgeon, relieved from duty on revenue cutter *Manning* and directed to rejoin station at San Francisco.

Schwartz, Louis, asst. surgeon, relieved from duty on revenue cutter *Tahoma* and directed to report to the medical officer in charge at Seattle for temporary duty.

Board of medical officers convened to meet at Baltimore, Oct. 25, 1911, for the examination of an officer of the Revenue-Cutter Service, to determine his fitness for promotion. Detail for the board: Surgeon W. P. McIntosh, chairman; Passed Assistant Surgeon John McMullen, recorder.

Changes for the seven days ended Nov. 1, 1911.

Stimpson, W. G., surgeon, detailed to represent the Service at the second annual meeting of the Clinical Congress of Surgeons of North America, to be held at Philadelphia, Nov. 7 to 16, 1911.

Blue, Rupert, surgeon, directed to proceed to Honolulu, T. H., and report to the Governor of Hawaii for special duty.

Lavinder, C. H., P. A. surgeon, detailed to represent the Service at a conference on pellagra to be held in Columbia, S. C., Nov. 2, 1911.

Anderson, J. F., P. A. surgeon, directed to proceed to New York on special temporary duty.

Currie, Donald H., P. A. surgeon, on being relieved by Passed Assistant Surgeon George W. McCoy, directed to proceed to San Francisco and assume charge of the plague laboratory.

Goldberger, J., P. A. surgeon, directed to proceed to Mexico City on special temporary duty.

Schereschewsky, J. W., P. A. surgeon, directed to attend a meeting of the executive committee of the International Congress on Hygiene and Demography to be held in New York, Nov. 4, 1911.

Francis, Edward, P. A. surgeon, directed to proceed to Baltimore on special temporary duty.

McCoy, George W., P. A. surgeon, relieved from duty in San Francisco and directed to proceed to Honolulu, T. H., and assume command of the leprosy investigation station.

Rucker, W. C., P. A. usrgeon, directed to proceed to San Francisco and report to Surgeon Rupert Blue for temporary duty.

Medicine and Nature.—Fernel, the great medical teacher, says: "Medicine, the eye always fixed on Nature, and, as it were, made in her image and resemblance, takes her law for guide, studying and bending every effort to imitate her, in order to preserve man's health constant and exempt from maladies, to restore and reestablish it when it totters and becomes deranged, finally to prolong life itself sound and safe as long as it is possible."

Medical Economics

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

Third Month—Second Weekly Meeting

ACUTE ARTICULAR RHEUMATISM[1]

PATHOLOGY: Changes in synovial membranes, periarticular structures, cartilages, effusion, tendon sheaths. Changes in endocardium, pericardium, myocardium. Blood changes.

CLINICAL HISTORY: Prodromata, fever, angina, etc. Invasion, fever, chills, synovitis, pain, swelling, perspiration. Duration, defervescence.

COMPLICATIONS: Hyperpyrexia—Time of onset, cerebral symptoms, prostration.

Cardiac Affections—Endocarditis, frequency, time of onset, *termination, diagnosis. Pericarditis, occurrence, forms,* symptoms, physical signs. Myocarditis, association with other lesions, dilatation.

Pulmonary Affections—Pneumonia, pleurisy, accompanying cardiac lesions.

Nervous complications—Delirium, coma, convulsions, chorea, meningitis.

Skin Lesions—Sudamina, erythema, urticaria, purpura. Subcutaneous nodules, distribution, pathology.

TREATMENT

PROPHYLAXIS: Exposure to cold, occupation, local predisposition, tonsilitis.

Internal Medication—Salicylate acid, its compounds. Physiologic action. Therapeutic action. Untoward effects. Antipyrin and acetanilid. Alkaline treatment.

Local Applications—Counter-Irritants. Cold and Heat. External applications.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARKANSAS: Regular, Little Rock, November 14. Sec., Dr. F. T. Murphy, Brinkley; Homeopathic, Little Rock, November 14. Sec., Dr. P. C. Williams, Texarkana.

CONNECTICUT: Regular, City Hall, New Haven, November 14. Sec., Dr. Charles A. Tuttle, 196 York Street; Homeopathic, Grace Hospital, New Haven, November 14. Sec., Dr. Edwin C. M. Hall, New Haven; Eclectic, Hotel Garde, New Haven, November 14. Sec., Dr. Thomas S. Hodge, 19 Main Street, Torrington.

LOUISIANA: Homeopathic, New Orleans, November 13. Sec., Dr. J. T. Crebbin, 1207 Maison Blanche Building.

MAINE: City Council Rooms, Portland, November 14-15. Sec., Dr. F. W. Searle, 776 Congress Street.

MASSACHUSETTS: State House, Boston, November 14-16. Sec., Dr. Edwin B. Harvey.

TEXAS: Fort Worth, November 14-16 (change of date from previous notification). Sec., Dr. J. D. Mitchell.

WEST VIRGINIA: *Hotel Waldo, Clarksburg, November 13-15.* Sec., Dr. H. A. Barbee, Point Pleasant.

Missouri June Report

Dr. Frank B. Hiller, secretary of the Missouri State Board of Health, reports the written and oral examination held at St. Louis, June 12-14, 1911. The number of subjects examined in was 14; total number of questions asked, 105; percentage required to pass, 75. The total number of candidates examined was 181, of whom 146 passed and 32 failed. Three candidates did not complete the examination. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Howard University, Washington, D. C.	(1910)	75
Rush Medical College (1902) 79;	(1909)	84
College of Physicians and Surgeons, Chicago	(1910)	84
Bennett Medical College	(1911)	78
Keokuk Medical College, College of Phys. and Surg.	(1905)	75
University of Kansas	(1911)	81, 91
University of Louisville (1910) 75;	(1911)	77, 81
Johns Hopkins University	(1911)	85
Harvard Medical School (1901) 85;	(1911)	89
Tufts College Medical School	(1908)	85
University of Michigan, Dept. of Med. and Surg.	(1911)	80
University Medical College, Kansas City (1896) 75; (1910) 75; (1911) 75, 75, 75, 76, 76, 76, 77, 79, 80, 80, 82, 83.		
Washington University (1907) 76; (1911) 75, 75, 75, 75, 75, 76, 77, 77, 77, 77, 78, 79, 79, 79, 80, 81, 81, 81, 82, 83, 83, 83, 84, 84, 84, 85, 85, 86, 87, 88.		
St. Louis University (1910) 80; (1911) 75, 75, 75, 75, 75, 77, 79, 79, 79, 81, 81, 81, 82, 82, 82, 83, 83, 83, 83, 84, 84, 84, 84, 85, 85, 85, 86, 87, 87, 88, 88, 88, 89.		
American Medical College, St. Louis (1905) 75; (1911) 75, 75, 75, 75, 78, 82.		
Barnes Medical College (1909) 79; (1911) 75, 75, 76, 76, 76, 76, 77, 77, 78, 78, 78, 78, 79, 80, 81, 83, 84, 84.		
St. Louis College of Physicians and Surgeons (1909) 75, 75, 75; (1910) 75, 75, 76; (1911) 75, 75, 75, 80, 84.		
Ensworth Medical College	(1911)	83
Homeopathic Med. College of Missouri. (1891) 75;	(1909)	75
Long Island College Hospital	(1905)	75
Leonard School of Medicine	(1905)	81
Eclectic Medical College, Cincinnati	(1911)	81
Meharry Medical College (1910) 75, 75; (1911) 76, 77, 78, 78.		
University of Nashville (1907) 77;	(1911)	82

FAILED

College	Year Grad.	Per Cent.
University of Louisville (1909) 68; (1910) 67;	(1911)	57
Barnes Medical College (1907) 51; (1909) 67; (1910) 69; (1911) 64, 65, 65.8, 67, 69.		
University Medical College, Kansas City (1910) 66; (1911) 50, 59, 67.		
St. Louis College of Physicians and Surgeons (1906) 62; (1910) 66; (1911) 59, 61, 64, 69.		
Ensworth Medical College (1909) 53;	(1910)	60
Kansas City Hahnemann Medical College	(1911)	69, 70
Washington University, St. Louis	(1911)	69
American Medical College, St. Louis (1910) 63;	(1911)	66, 69
St. Louis University	(1907)	68
Meharry Medical College (1910) 68;	(1911)	70

Georgia Homeopathic October Report

Dr. R. E. Hinman, secretary of the Homeopathic Board of Medical Examiners of the State of Georgia, reports that at the meeting held October 10, 1911, 2 candidates were licensed through reciprocity. The following colleges were represented:

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Chicago Homeopathic Medical College	(1897)	*Illinois*
Detroit Homeopathic Medical College	(1901)	Michigan

Rhode Island October Report

Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, reports the written examination held at the State House, Providence, Oct. 5-6, 1911. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 80. The total number of candidates examined was 14, of whom 13 passed and 1 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Yale Medical School (1908) 84.5;	(1911)	86.8
Rush Medical College	(1905)	83.1
University of Maryland	(1911)	83.5
College of Physicians and Surgeons, Baltimore	(1911)	84
Tufts College Medical School	(1911)	81.5
Harvard Medical School	(1901)	86.7
Dartmouth Medical School	(1908)	88.1
University of Pennsylvania (1909) 91;	(1911)	85.1
Laval University, Quebec	(1911)	82.2
McGill University, Quebec	(1909)	84.8
Queen's University, Ontario	(1908)	89.8

FAILED

College	Year Grad.	Per Cent.
University of Vermont	(1910)	76

Wyoming October Report

Dr. A. B. Tonkin, secretary of the Wyoming State Board of Medical Examiners, reports the written and oral examination held at Riverton, Oct. 9-11, 1911. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 4, all of whom passed. Three candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.
Marion-Sims College of Medicine	(1897)
Creighton Medical College	(1910)
Columbus Medical College	(1910)
Jefferson Medical College	(1910)

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Chicago College of Medicine and Surgery	(1910)	Illinois
Rush Medical College	(1910)	Ii
Lincoln Medical College	(1906)	

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[1] McCrea: THE JOURNAL A. M. A., 1903, xl, 211. Phillips: Cleveland Med. Jour., 1906, v, 436

Society Proceedings

COMING MEETINGS

Am. Assn. for Prevention of Infant Mortality, Chicago, Nov. 16-18.
American Physiological Society, Baltimore, Dec. 27-30.
American Public Health Association, Havana, Cuba, Dec. 4-9.
Southern Medical Association, Hattiesburg, Miss., Nov. 14-16.
Southern Surg. and Gynecol. Assn., Washington, D. C., Dec. 12-14.
Western Surg. and Gynecol. Assn., Kansas City, Mo., Dec. 18-19.

KENTUCKY STATE MEDICAL ASSOCIATION

Fifty-Sixth Annual Meeting, held at Paducah, Oct. 24-26, 1911

The President, DR. J. E. WELLS, Cynthiana, in the Chair

Officers Elected

A list of the newly elected officers was published November 4, p. 1545.

Axis Traction Forceps

DR. DELIA CALDWELL, Paducah: This instrument is not used as often as it should be. Practitioners should make use of it in all suitable cases.

What the Physician Can Do for the Diseases of Women in His Office and at the Bedside

DR. GEORGE J. HERMAN, *Newport:* More than 90 per cent. of gynecologic patients consult the general practitioner for one of two things, either pain or irregular menstruation. Again, the general practitioner sees for the first time the great majority of women who suffer from malignant disease of the breast and uterus. What can he do for those patients? He must make an early diagnosis, and advise early and radical treatment. I want to emphasize the value of absolute rest in inflammatory conditions of the female pelvis.

DISCUSSION ON PAPERS BY DRS. CALDWELL AND HERMAN

DR. T. A. FRAZER, Marion: Dr. Herman struck the keynote when he says we should put these patients to bed and have them rest. When a woman is suffering from an inflammation of the pelvic viscera, it is just as necessary that she be confined to bed and kept there for a while as is a case of typhoid. There is nothing so important for these cases as absolute rest.

DR. D. O. HANCOCK, Henderson: We do not use forceps enough. If we did, much pain would be obviated and exhaustion guarded against. With a reasonable amount of skill, the damage which may be done by the forceps does not compare with the damage that is done by the head by prolonged pressure and waiting. I can more certainly protect the perineum by having forceps on than I can by taking them off.

DR. J. S. LOCK, Barboursville: Among country practitioners there is a good deal of prejudice against the use of forceps, either on account of lack of skill in using them or to gain the favor of the public. I make it a practice to use forceps if I have a tedious case and can get the parts in proper condition. I think it is just as much our duty to relieve suffering mothers with the use of forceps as it is with anything else that comes in our line of work. The general practitioner is responsible for the infrequent use of forceps, to a great extent. If the practitioner does not know how to use this instrument, he ought to learn how. We ought to begin to educate the people about the use of forceps and about the advantages that come to them from such use.

DR. C. J. SLAYTON, Greenville: I have been engaged in the practice of medicine for forty years. I have used forceps oftentimes, but only when I think it is absolutely necessary. I depend largely on the *vis medicatrix naturæ*. He who practices obstetrics and has patience and waits is the safest man. I did not see a rupture of the perineum for fifteen or twenty years after I began to practice.

DR. J. T. REDDICK, Paducah: I have had a pair of axis-traction forceps for the past six or eight years. No physician who pretends to do very much obstetric practice should be without this instrument because of its value in selected cases. In high forceps cases and in other cases that are difficult, the axis-traction forceps affords speedy relief and its manipulation is easy. I have saved the lives of many infants by the timely use of forceps.

DR. J. B. MURPHY, Chicago: Every obstetrical case is a surgical case. Fortunately, Providence has so ordained that the tissues, lacerated and injured in every surgical case, shall take care of a large quantity of material, unless the dose is very large and of the most virulent type, by the infiltration edema that occurs preceding parturition. It is entirely different when we come to abortion and premature labor. There is where we get out fatal infections. There is where women are killed by interference and manipulation and handling without taking aseptic or antiseptic precautions. We see these cases of infection in their worst forms after they have passed out of the hands of general practitioners, and they come to us in the superlative degree of infection, and we, therefore, as surgeons are very much more afraid of infections than the average practitioner.

Medical Ideals for the Every-Day Doctor

DR. W. W. ANDERSON, Newport: Every great movement for human welfare in promoting health and vigor has been instigated, advocated and carried to success chiefly by the medical profession to its own great loss, and often in the face of bitter opposition from the people who were to be benefited. No other calling or profession has such a record of constant and unselfish devotion to humanity. The every-day practice of medicine is eminently fitted to make the most of any man if he but give himself devotedly to the work for its own sake. The great men of medicine were just hard, earnest and capable workers. They grew great by growing into the greatness of their task. The every-day doctor must do some specializing. Consultations ought to be more frequent. The greatest opportunities in the healing art to-day are waiting at the hand of the general practitioner. When the every-day doctor has learned to excel himself and others in something, he will begin to experience the pleasure of leadership, the distinction of success, the joy inherent in work well done.

Indications for Prostatectomy

DR. FRANK BOYD, Paducah: The indications for the removal of the prostate are that whenever it interferes by enlargement sufficient to prevent the free and complete emptying of the bladder, from whatever cause, it should be removed.

DISCUSSION

DR. JAMES G. CARPENTER, Frankfort: Early diagnosis of enlarged prostate is everything. If the gland is large and situated high up, it is easily reached by the suprapubic route. If it is a comparatively small fibrous prostate, it can be removed by the perineal route.

DR. CARL WHEELER, Lexington: Residual urine does not always mean enlarged prostate. We may overlook contracture at the vesical neck or hypertrophy of the prostatic fibers at the vesical neck, which is to be differentiated from prostatic hypertrophy by the increased length of the urethra. In hypertrophy of the prostate the patient has an increase in the length of the urethra. Preparation of the patient for prostatectomy has not been touched on. In many instances the renal function is deranged, and the administration of an anesthetic may mean almost certain death. If you introduce a drainage catheter and anchor it, you will see the specific gravity of the urine increase from 1006 to 1020. The albumin in the urine will greatly disappear, but not entirely. The appetite of the patient will improve. The patient will take on flesh. The kidney function will almost be reestablished, and the surgical risk is greatly minimized, and prostatectomy is never indicated until all these things are found out.

DR. JOHN R. WATHEN, Louisville: I have contended that it is far better to operate suprapubically where the prostate is soft, large, of the adenomatous type, rising high up in the bladder. It enables one to make a better diagnosis of other lesions which may be present. The perineal method is indicated in 90 per cent. of the cases.

DR. L. W. BREMERMAN, Chicago: The functional activity of the kidneys should be estimated in every case, not only when prostatectomy is indicated, but when any other operative procedure is contemplated on the genito-urinary tract.

Early Diagnosis in Malignant Disease

Dr. William H. Wathen, Louisville: We are able to make a reasonably early diagnosis of cancer in certain parts of the body, while in cancer situated in other parts we make a very late diagnosis—too late in many instances to do any good by surgical operation. I have operated in numerous cases of cancer of the uterus in the last thirty years, and in many others I have not operated at all. In from 80 to 90 per cent. of the cases it was too late to offer any hope of a permanent cure by operative procedure. We can only offer temporary relief and the prolongation of life of from six months to one year. It is a sad commentary on the intelligence of womanhood and on the medical profession that when we recognize most of the cases of mammary cancer they have progressed too far for any hope of permanent relief.

Early Diagnosis in Ano-Rectal Diseases

Dr. J. G. Carpenter, Frankfort: Early diagnosis in anorectal diseases is everything. Too often the physician has accepted what the patient has said with reference to his condition. If a patient will not submit to a proper objective examination, he has no right to be treated. I have seen young children with summer diarrhea in whom there were fissures, hemorrhoids, aphthous ulcerations, proctitis. When the patients were treated by divulsion of the rectum and the use of antiseptics, the summer diarrhea has subsided and these patients have recovered.

Early Diagnosis of Head Injuries

Dr. A. D. Willmoth, Louisville: In the brain, of all structures, do we have to make an early diagnosis, if we expect to get the best results. This may not mean a surgical result. Many times it means doing nothing. If we would make an early diagnosis, we have to do away with the old classification of concussion and compression of the brain. There is one condition in brain injuries that brings about the entire trouble, and that is increased intracranial pressure. If it be an injury, you may merely have an extravasation of blood as in any other part of the body or tissue, and it causes great disturbance. A good history of these cases will guide one in the subsequent treatment.

Ectopic Pregnancy

Dr. Hugh E. Prather, Hickman: Abdominal section is the only reliable method for the relief of this condition. Without surgical treatment about two-thirds of the patients die. When rupture occurs the patient may suddenly collapse and fall to the floor, or present symptoms which simulate salpingitis, appendicitis or uterine abortion. Surgical treatment should be instituted as soon as the diagnosis is tentatively established, except when the patients are *in extremis*.

DISCUSSION

Dr. W. W. Anderson, Newport: Surgery is so safe and swift and sure that we ought to consult the surgeon for diagnosis a great deal oftener than we do.

Dr. J. G. Carpenter, Frankfort: In ectopic pregnancy we should be able to make a diagnosis before rupture. The patient may feel in unusually good health, but suddenly falls over when in the act of doing something and faints, or she is seized with a violent pain in the lower part of the abdomen and says, "I am dying." These, with other symptoms should enable the practitioner to make a diagnosis. With a diagnosis of ectopic pregnancy the patient should be kept in the best possible condition, and when the attachments of the afterbirth are maturing and ready to undergo degeneration, operation should be performed.

Dr. J. T. Reddick, Paducah: When there is a rupture in the early stage of pregnancy, it is small, and the hemorrhage is so slight that one may not be able to make a diagnosis for several hours. I recall one such case in which it was impossible to say whether or not it was a case of ruptured ectopic pregnancy or appendicitis or acute intestinal obstruction.

(*To be continued*)

MISSISSIPPI VALLEY MEDICAL ASSOCIATION

Annual Meeting, held at Nashville, Oct. 17-19, 1911

(*Concluded from page 1558*)

Medical Tendencies

Dr. Robert H. Babcock, Chicago: So indispensable have laboratory methods become to-day that one wonders how clinicians of fifty years ago succeeded as well as they did in the diagnosis of any but the commonest affections. Is there not a tendency, along with devotion to laboratory research and animal experimentation, to make the study of pathology outweigh too greatly the application of remedies to the alleviation of disease? In how many schools of to-day do the students receive the instruction in materia medica and therapeutics they did thirty years ago? There is reason for this therapeutic skepticism, but it is a tendency which should not be permitted to grow too rank lest the art of healing be lost in the science of investigation of disease processes. Medical colleges must enlarge their clinical facilities or it may be well to return to the good old custom of each student having a practical training with an experienced preceptor. No one can contemplate present therapeutic methods and contrast them with those of three or four decades ago without recognizing that a momentous evolution is at work.

A national department of public health in all probability is only a question of time. It certainly is in accord with popular education on matters of health and hygiene and the movement springs from the humanitarian desire for the physical betterment of the masses.

Doctors and the People

Dr. J. C. Wilson, Philadelphia: The organization of the medical profession but lightly touches the people and the discipline reaches them not at all. There are many people who are wholly indifferent to the medical profession; some who are actively hostile to it. Modern medicine is preventive medicine. To attain its objects, which are the protection of health and life, no effort is too arduous, no problem too difficult. Wherever disease prevails, wherever the death-rate is high, it wants to know the cause in order that the remedy may be applied. It busies itself with water, milk, foods of every kind, even the air we breathe. It goes to the school, the mine, the factory, the shop, even to the very homes of the people to correct the faults that menace health and life through ignorance and neglect. It invokes the law that people may be protected from themselves and from each other. It is in the highest sense educational. It invites reasonable criticism of its methods and results. It should have the interested cooperation of those who reap the benefit of its work.

The Indebtedness of Posterity to the Pioneer Surgeon of the Mississippi Valley

Dr. Joseph C. Bryant, New York, in the address in surgery, paid a glowing tribute to Dr. Ephraim McDowell, the first surgeon to perform ovariotomy.

General and Dietetic Treatment of Typhoid

Dr. George Dock, St. Louis: The efficient preventive treatment now available should be used in camps and in institutions or wherever bodies of people are gathered together under conditions that might make typhoid infection possible. The preliminary use of calomel can be carried out without danger of setting up dangerous diarrheas. It is important to keep up the patient's nutrition to the highest possible point in order to favor recovery of the anatomic lesions. The fuller diet recommended by many recent authorities does not involve any greater danger to the intestinal wall than the administration of milk. A comparatively varied diet can be given without exciting the patient in any way, and the morale of the patient is nearly always distinctly improved by realizing that he is not on the painfully limited diet traditionally given to seriously sick people.

DISCUSSION

Dr. Charles L. Minor, Asheville, N. C.: We ought to use all the various means of giving water to our patients, of pushing water on them, having the nurses insist that they get so much water at a time and as regularly as medicine. I have for the last two years in a number of severe cases, infused my patients, and I have been surprised to see the wonderful effect of a twice-daily saline infusion.

Dr. Fenton B. Turck, Chicago: It is a mistake to inject a large quantity of water into the bowel of a typhoid patient, for the reason that it overstretches the colon, increases the cramps and does not produce a true peristalsis.

Dr. John A. Witherspoon, Nashville: In my typhoid experience, sweet milk, if given at any stage of fever, and especially after the beginning of the second week, will invariably increase fermentation to the extent that there will be a great deal more gas in the abdomen, and a great deal more flatulency. Then in the stool large masses of curdled milk will be found passing through. Any diet that increases flatulency and fermentation, and that is capable of passing through the intestinal tract in a coagulated form, is not the best diet. I believe in nutrition, but sweet milk, in my judgment, has no place in the treatment and dietetics of typhoid fever. If one gives the patients buttermilk, or broths, or meat juices, or extracts, one will get much better results, and maintain the vitality of the patient better.

Dr. L. H. Montgomery, Chicago: I am an advocate of soups and beef-extracts, properly prepared, but I use milk and buttermilk. I give custards and poached eggs, recommend sunshine and plenty of clean sheets and bedding, and general hygienic rules.

Dr. Robert B. Preble, Chicago: The keynote of this discussion is individualization: there are patients who can be fed successfully on sweet milk without disturbance; some can be fed nothing but water and not feel any disturbance, and there are others to whom we may give a liquid diet. But each patient must be handled as an individual, and any man who attempts to treat every patient with a fixed diet that applies to all patients will have a lot of trouble.

Hemorrhage in Typhoid Fever

Dr. Walter F. Boggess, Louisville: For the past fifteen years it has been my habit to give every typhoid patient 5 grains salol, 10 grains hexamethylenamin, 20 grains each of subnitrate and subgallate of bismuth, in suspension, every four to eight hours. This is given with a dose of castor oil every three or four days, and normal saline enemata each day, whether or not diarrhea is present. In 223 cases of typhoid fever thus handled not a single one showed any hemorrhage. Three severe hemorrhages occurred in ambulatory patients, and my first visit was during the hemorrhage. I feel sure that this treatment is prophylactic and curative.

As to the treatment of the hemorrhage itself, at first glance, the indications are threefold: first, to put the bowel at rest by lessening peristalsis; second, increase the coagulability of the blood, either local or systemic or both, and, third, to sustain the patient and the after-treatment, which is a matter of some importance. Prophylaxis is a matter of great importance, as obtained by the proper handling and treatment of the patient.

Dr. George Dock, St. Louis: The first thing to do in such cases is to give the patient enough morphin to quiet him. I have hardly seen one who did not need quieting. When to move the bowels is an important point, and I have come to solve this in a rather empirical way. As long as the patient is comfortable, I often wait three or four days, but if he shows the slightest discomfort in the lower bowel, I do not hesitate to give him an enema, either saline solution, or even soap-suds enema containing castor oil. I think this better, even if a little hemorrhage is started.

Hygienic and Dietetic Treatment of Arterial Hypertension

Dr. Arthur R. Elliott, Chicago: We must not lose sight of the fact that high blood-pressure is a symptom, not a disease. In the present state of our knowledge hypertension appears to be due to toxemia, certain secondary organic changes, arterial fibrosis and cardiac hypertrophy, following from over functioning of the cardiovascular apparatus produced by the circulatory toxins. The existence of arterial hypertension is not necessarily an indication for treatment. It is difficult often to decide whether we should attempt to lower blood-pressure at all in any given case. A blood-pressure of 200 mm. or higher may be essential to the maintenance of circulatory efficiency. This is true of most cases of chronic nephritis. Again, the symptoms ordinarily attributed to high blood-pressure may be more dependent on disturbance of heart function than on elevated blood-pressure *per se*. Even in matters of diet and hygiene we may by overstrictness impair the patient's strength and reduce his circulatory efficiency. This symptom is encountered alike among the rich and the poor, the thin and the fat. Owing to variation in type and circumstances, it is difficult to lay down any absolute rules to govern diet and hygiene that will be appropriate for any major group of cases.

Preliminary treatment should be directed toward putting the patient in as good general condition as possible, and especially to eliminate toxic factors. Tobacco should be interdicted in severe cases and cases with bad hearts, and strictly controlled in all. Exercise and activities should be regulated on the physiologic level. Such rest should be enforced and periodical "bed weeks" advised in cases of weak hearts. The diet should be individualized according to age, activity, and the state of the heart. Hypertension waves or crises should be combated by rest, starvation or a low diet, of milk and cereals, or bread and fruit with limitation of fluids. Fluids should be restricted in ratio to the amount of urine secreted. Salt restriction is advisable in all cases, and salt withdrawal in every case showing edema, however slight. As these patients are very nervous and impressionable, they should be habitually encouraged and should not be informed of the fluctuations in their blood-pressure.

DISCUSSION

Dr. Alfred C. Croftan, Chicago: An important point in Dr. Elliott's paper is that not every case of hyperarterial tension necessarily calls for suspicion or regulation. This is simply a broad rule which applies to almost every morbid phenomenon. It may call for regulation, it may call for suspicion, or it may call for encouragement. A symptom of that kind may be one of the means of defense against disease. As to diet, I have been inclined to the mechanical rather than the chemical side. I try to give these patients a diet which does not distend the stomach and colon unduly with salads, liquids or gas. The diastolic action of the heart is always difficult in these cases, and anything that presses upward on the diaphragm is not good. Hydrotherapy is of the greatest importance.

Dr. Robert B. Preble, Chicago: The successful handling of these cases requires, first, that our knowledge must be more complete than it is now, so that we may be able to direct our patients intelligently. Second, our patients must be sufficiently intelligent to carry out the directions which we give them. Third, the very practical difficulty which we frequently encounter is a question of dollars and cents. These conditions are extremely common among the poor, and it is useless to talk to the average poor patient about these things you would like to have him do that would be for his good.

Dr. Albert E. Sterne, Indianapolis: In some instances these cases will react to simple mechanical treatment, but in those in which there are manifest cardiovascular changes and commensurately strong central action, systematic venesection is one of the best remedies. It is true that after a comparatively shorter or longer lapse of time the rise in peripheral tension recurs, but systematically carried out I have found venesection in selected cases a valuable therapeutic agent.

The Treatment of Movable Kidney

Dr. William Billington, Birmingham, England: I have operated for mobility of one or both kidneys on 345 patients and have performed more than 500 fixation operations. In many instances, I have tried the effect of mechanical support prior to nephropexy. Amelioration of symptoms, when the kidney is efficiently supported, is a strong argument in favor of nephropexy, should the belt fail to give complete relief or be too irksome for permanent employment. Congenital cases of general visceroptosis are unsuitable for operation. Open operation alone insures permanent and complete cure of renal mobility. Nephropexy can now be carried out with safety, precision, and permanent success, and there are no surgical reasons why it should not be done in suitable cases. The operation is analogous in all respects to the radical cure of hernia, the same general rules applying to each procedure. Given a patient whose symptoms demand treatment for mobile kidney, the choice between belts and trusses or operation will be determined by the type of displacement, the nature of the symptoms, and the age, occupation, and general condition of the patient.

With regard to my results, I have to record three deaths among 345 patients, a mortality of less than 1 per cent. In 166 of the 345 patients, one kidney only was operated on, while in 179 both kidneys were fixed at the same sitting. The total number of nephropexies is 524. Of the single operations, 130 were on the right kidney and thirty-six on the left. Thirty-three of the patients were males and 312 females. Of the latter, 148 were married and 164 single. My youngest patient was a boy of 14, and my oldest a woman of 70 who suffered from agonizing pains in the right side on the least exertion, the cause of the pain being torsion of the right renal pedicle. Most of my patients were between 35 and 45, but my experience has been that no period of life is altogether immune from the more serious troubles associated with nephroptosis.

Nephroptosis: Its Effect on the Nervous System, with Special Reference to Insanity

Dr. C. W. Suckling, Birmingham, England: My views are based on twenty years' work and on the observation of over 400 nephropexies performed on 303 patients. I was astounded at the frequency with which I found dropped kidney. I could not help associating the dropped condition of the kidneys with the nervous trouble of which the people complained. I tried various kidney belts, but found they did not keep the kidneys up. I have now had at least 300 cases of operation. I have seen the kidneys, and have observed the changes that take place with age. I have seen the normal kidney, the suprarenal capsules occasionally, but very rarely descending with the kidney, the colon dragged out with the movable kidney, also the duodenum. I have also seen ptosis of the spleen with nephroptosis. I have visited these patients after nephropexy, and have observed the wonderful change in their appearance after a few days. Forty-three of my insane patients treated by nephropexy are cured; five cases are failures, of which two are so owing to bad nephropexy.

Treatment of General Peritonitis, Based on Personal Experience

Dr. Daniel N. Eisendrath, Chicago: I have had thirty-two cases in seven years with three deaths; twenty-two in the past three years with two deaths. The causes of death were acute dilatation of the stomach, general sepsis and uremia in one case, phlegmon of abdominal wall in another, and initial general sepsis in the third. One additional patient, who died of pneumonia one month after operation, had been well and up for nearly two weeks. There were ten patients operated on the first day, with no deaths; twelve on the second day with one death; seven on the third day, with one death. In the majority of cases there were no previous attacks due to the organ involved.

The most valuable symptoms are increase in pulse-rate, spreading rigidity and tenderness, persistent nausea and vomiting; uncertain signs or the presence of fluid and absence of liver dulness. The distention comes on too late, as a rule, to be of much value. Fever also is not reliable. The white blood-count was increased in all cases, except the most severe one. Urinary findings are of importance in regard to prognosis.

The peritoneal changes were typical in all cases. In twenty appendicitis cases there was a visible perforation. In eight there was none. Peritonitis was general so far as I could see. Rapid operation is a necessity. The right rectus incision was made in all cases. This is sutured, except a small drain is inserted at the lower angle down to the peritoneum. As soon as the appendix has been removed, or the perforation has been closed, an incision is made just above the pubes and a drain is inserted into the cul-de-sac. A split rubber-tube, well protected, is the best drain. The maximum amount of drainage is obtained in the first twenty-four hours. The high elevation of the patient after operation is essential. No irrigation is resorted to during the operation. Salt solution, 6 ounces, is given every four hours after operation, and this has been found to be plenty and is better tolerated by the majority of cases. The surgeon should watch for complications, especially acute dilatation of the stomach. Abscesses between the coils of intestine will usually take care of themselves or can be opened later if the fever should persist.

Approval of Dr. Wiley's Work and of a National Department of Health

The association put itself on record as expressing its appreciation of the valuable work which has been done and is being done by Dr. Harvey W. Wiley in the enforcement of the Food and Drugs Act. The association also, following the recommendation of the president, Dr. Babcock, in his address, appointed a committee which drafted resolutions urging the importance of establishing a national department of health

COLLEGE OF PHYSICIANS OF PHILADELPHIA

Meeting held Oct. 4, 1911

The President, Dr. George E. deSchweinitz, in the Chair

Hydrophobia

Dr. Leonard D. Frescoln: History shows that knowledge of the disease dates back to the time of Celsus. Early ideas of the disease were very crude. Virchow showed the fallacy of its spontaneous origin, and Samuel Johnson called it "a substance, nobody knows what." It is found most commonly in the spring. One writer said it could occur as long as twenty-eight years after the bite. The incubation period is between ten days and one year—generally about six weeks. In Egypt the disease is unknown; in Missouri and Ohio it is common; also in Hamburg and in Saxony. The gross pathology is for the most part similar to that of uremia, or septicemia, or delirium tremens. One case had a ruptured pleura from the convulsions; glycosuria may be found in dogs with the disease. In 1903, Negri noticed degeneration of cortical nerve cells in rabies cases. Among the most striking symptoms now found to be indicative of the disease, are irritability, sensitiveness of the ears to sound, spasm of the pharyngeal muscles, especially when trying to swallow, painful consciousness and later paralysis. It is yet a long road to the complete satisfaction of particularly the laity in the diagnosis and treatment of rabies. Dr. Hunter stated that not one case had been helped in 2,000 years. Ward, in 1809, advised the external use of opium; entrails of insects were used in India to cure the malady, and many superstitious modes of treatment were in vogue. Now we cauterize the wound at once with fuming nitric acid, administer chloral and give the Pasteur preventive treatment as early as possible.

In 1895, eleven persons were given this treatment, and in 1907, 165 in Massachusetts alone. In 1886, there were 2,671 patients treated in Paris, and twenty-five of these died, probably because treatment was delayed; in 1910, there were 401 persons treated and not one died. In 1899, in the District of Columbia, twenty-one persons were bitten, Pasteur treatment instituted, and not one died. There is no case of the fully developed disease in which the patient has ever recovered.

Rabies has been eradicated from Denmark, Norway, Sweden, England (1897) and Switzerland. In Australia there is a six months' quarantine for newly arrived dogs. Pseudolyssa or hysteria resembling rabies, may closely simulate the disease. During the last few years about sixteen persons under our observation were treated, either for the disease or on account of suspicious bite from animals shown to be rabid and having Negri bodies; in one or two cases, Negri bodies were found at autopsy. All persons receiving our treatment escaped the disease. Treatment was given before convulsions developed. The cases seen in the disease terminated fatally. There should be a proper selection of cases and careful institution at once of the best known treatment. About twenty-five treatments of the Pasteur method or required, one a day, as shipped, e. g., from the New York Board of Health; this costs $25. Each bottle should be kept on ice till injected that day.

DISCUSSION

Dr. D. J. McCarthy: An important point in diagnosis is the period of incubation, which is usually about six weeks. In almost all the spurious cases of rabies I have seen the incubation period was much too early or very much too late. In examining a case of suspected rabies I feel that it is important to work out carefully the question of exposure, history of dog-bite, and to estimate the period of incubation. One condition mistaken for rabies and in which the similarity of symptomatology is marked is enlarged thymus.

Dr. Hobart A. Hare: To anyone wishing to investigate the subject of rabies, an instance of interest is the occurrence of an epidemic of the disease in the royal herd of deer near London in 1888. A number were at the Brown Institution, where I saw them with Sir Victor Horsley and Dr. Beavor. The viciousness of the animals, which ordinarily are so gentle, was very marked.

Dr. A. P. C. Ashhurst: It is worthy of notice, I think, that in these cases only those patients recovered whose wounds had been treated properly; and that patients whose wounds had not received proper treatment had died in spite of the use of the Pasteur treatment. Dr. Rambaud, head of the Pasteur Institute in New York, asserted that cauterization was useless unless the actual cautery was employed, and he considered bichlorid of mercury (1 to 1,000) the best antiseptic. It has been suggested that lemon juice might be employed in an emergency, as this has been found of value in experimental work. If it was certain that the bite had been inflicted by an animal which was really rabid, a cupping glass should be applied to the wound, or this should be sucked, so as to extract the virus; and its absorption might be delayed by the use of an elastic tourniquet. I should like to ask Dr. Frescoln what method of cauterization he employed in the cases reported.

Dr. L. D. Frescoln: Fuming nitric acid or crude phenol was used immediately to cauterize.

Compensation by Displacement of the Thoracic Viscera in Pulmonary Tuberculosis

A long abstract of this paper by Dr. Charles L. Leonard appeared in The Journal, Oct. 21, 1911, p. 1393.

DISCUSSION

Dr. Henry R. M. Landis: I should like to ask Dr. Leonard how many cases came to the autopsy table, because even where the clinical results and the roentgenograms have been compared, experience has shown that a different condition is sometimes present. I should also like to ask whether the pneumothoraces were recognized by clinical examination or by the plates only. I should think it would be difficult to detect any displacement of the aorta by clinical means, and I should like to inquire how often the clinical examination of displacement of the aorta coincided with that found in the Roentgen examination.

Dr. James M. Anders: I was somewhat surprised to hear the statement made that the heart is displaced toward the right four times as often as toward the left in pulmonary tuberculosis. In making physical examinations in cases of tuberculosis, one is led to believe that the heart is displaced toward the left, because the left lung, when retracted, uncovers an increased area of the anterior surface of the heart, giving the impression that the latter is displaced toward the left. This group of cases is readily eliminated by the Roentgen ray. Dr. Leonard has pointed out that in the vast majority of cases in which there is displacement of the heart toward the right, the aorta is also displaced; this had not been discovered by the clinician prior to the introduction of the Roentgen-ray method of studying cardiovascular diseases. One reason that the heart is displaced more frequently toward the right than toward the left is doubtless the fact that the hydropneumothoraces are more common on the left than on the right.

Dr. Charles L. Leonard: The superficial hydropneumothoraces were discovered by the physical signs only, after the Roentgen examination showed them to be present. The fact that we have the anteroposterior position produced by the heart has led me to believe that in many cases the supposed frequent occurrence of a decrease in the size of the heart in tuberculous cases is due rather to a change in the position of the heart than to a change in the size. As Dr. Anders has said, the drawing away of a portion of the lung from the right has led to the idea of its hypertrophy. I have studied these cases from the roentgenologic standpoint, rather than from that of the internist. We have compared all the cases with the clinical findings, and the result of the roentgenographic findings is what I have presented in my paper.

Book Notices

Lehrbuch der Therapie innerer Krankheiten für Aerzte und Studierende. Band I. Allgemeine Therapie innerer Krankheiten. Herausgegeben von Dr. Paul Krause, Professor und Direktor der Medizinischen Universitäts-Poliklinik in Bonn, und Dr. Carl Garre, Professor und Direktor der chirurgischen Universitäts-Klinik in Bonn. By various authors. Paper. Price, 11.50 marks. Pp. 758, with 345 illustrations. Vienna: Gustav Fischer, 1911.

This is an excellent treatise by some of the more noted clinicians of Germany and promises to be of unusual worth from its thoroughness and practical character. Evidence of the first quality is furnished by the passage which gives the application to the administration of remedies of the more recent facts regarding the absorbability of different substances from the stomach—the first attempt we have seen to make this application. Professor Magnus remarks in this connection that on account of the difficult absorbability of most medicines from the stomach, we are to consider the time which they stay in that organ as lost time and that their action begins only at the time when they are expelled from the stomach into the intestine.

A Text-Book of the Practice of Medicine. By James M. Anders, M.D., Ph.D., LL.D., Professor of Medicine and Clinical Medicine at the Medico-Chirurgical College, Philadelphia. Tenth Edition. Cloth. Price, $5.50 net. Pp. 1328, with 81 illustrations. Philadelphia: W. B. Saunders Co., 1911.

The present edition of this manual has undergone a more thorough revision than its predecessors, with the addition of much new matter. The list of topics revised or considered the first time includes over forty titles. The attempt to confine the work largely to the more practical aspects of medicine, etiology, diagnosis and treatment makes it possible to present a vast amount of useful information within the compass of a single volume. Still so much condensation becomes necessary that some of the more important topics receive a mere notice. Thus the glycyl-tryptophan test for gastric cancer is dismissed in a line which leaves the student as ignorant as before of its nature or significance. It may be questioned whether such references as this are of any practical value, although, of course, their omission would lay the work open to the charge of incompleteness. On the whole the book is well adapted to meet the needs of the general practitioner who may find here authentic information, well up to date, without discussion of disputed points, for which he may consult other works or periodical literature.

Clinical Lectures on the Acute Abdomen. By William Henry Battle, F.R.C.S., Surgeon to St. Thomas's Hospital. Cloth. Price, $1.50 net. Pp. 107, with 10 illustrations. New York: William Wood & Co., 1911.

These lectures are collected to make seven chapters: I, The Influence of the Appendix Vermiformis and Its Diseases. II, The Treatment of Acute Appendicitis with Peritonitis. III, Pathologic Perforations of the Digestive Tract. IV, Acute Intestinal Obstruction. V, Diseases of the Female Generative Organs. VI, Some of the More Rare Causes of the Acute Abdomen. VII, Some Neuroses Which May Cause Symptoms of Urgency. Many of the conditions discussed are illustrated by case reports, thus adding to the value of the text. Where operation is indicated, the procedure particulary adapted to the case is described in a manner enabling even the tyro to do the operation. The author repeatedly emphasizes his preference for silk sutures and ligatures. He believes that catgut should not be used in acute abdominal cases because it is apt to soften and yield too quickly. He always uses silk.

Medicolegal

Members of Board of Health Not Liable for Damages from Fumigation—Construction of Health Laws—Power to Quarantine Against Local and Interstate Points

(Allison vs. Cash and others (Ky.), 137 S. W. R. 245)

The Court of Appeals of Kentucky affirms a judgment holding that the defendant sheriff and members of the Lyon County board of health were not liable for damages sustained by the plaintiff in having her store fumigated, etc. The court says that the laws from which the boards of health derive their powers should be liberally construed that they may not be needlessly restricted in their efforts to preserve the public health; otherwise the health officers would be unable to know their duties and so embarrassed in their performance as to hesitate to act, until irreparable injury has resulted to the public.

In the court's opinion, the power, as for example of the Lyon County board of health to establish quarantine for the benefit of Eddyville against Kuttawa, is impliedly, if not expressly, conferred by Section 2055 of the Kentucky Statutes. But, while the powers enumerated by that section seem sufficient to authorize a county board of health to establish and maintain quarantine in behalf of one city or county against another city or county within the state, such power cannot be exercised by a county board or the state board, as against another state or county thereof, without express legislative authority specifying the conditions and limitations on which such quarantine shall be maintained. In the absence of such legislative authority, the enforcement of quarantine regulations by one state against another would violate the comity that should exist between them and perhaps constitute an interference with interstate commerce.

However, aside from the question of whether the Lyon County board of health exceeded its powers in establishing quarantine against the town of Kuttawa, it clearly had under the general powers conferred by Section 2055 authority to compel the closing of the plaintiff's store for disinfection and likewise to quarantine her, either by requiring her to return to her home in Kuttawa, or be quarantined at some isolated place in Eddyville for the time specified in the notice, as the bringing of her son to the latter place from the infected town of Kuttawa gave her an opportunity to become infected with small-pox, and the leaving of his cast-off clothing in her store afforded danger of infection to her customers. In having her son taken to Eddyville, placing his clothes in the store, and refusing her consent to the temporary closing of the store for disinfection, the plaintiff violated the rules and regulations established by the county board of health and put in force in Eddyville for preventing small-pox from breaking out in that city. In thus dealing with the plaintiff and her property, the defendants not only acted in pursuance of the powers conferred by this section of the statutes, but also in conformity to the rules and regulations of the state board of health.

A board of health is an instrumentality of government created for convenience and invested with such powers as will enable it to protect the general health of the people of the state, county or community over which it is given jurisdiction.

The acts of the defendants complained of in this case did not, according to the proof, constitute in the meaning of the constitution or laws of the state the taking of private property for public use; nor did they result in such an injury to or destruction of the plaintiff's property as authorized a recovery. Fairly viewing the evidence, the acts of the defendants in closing the plaintiff's store, disinfecting her goods, and in requiring her to elect whether she would temporarily return to her home in Kuttawa or be for a stated time quarantined in an isolated place in Eddyville were reasonable and lawful measures adopted by them as members of the county board of health for the suppression of an extraordinary outbreak of small-pox, and were rendered unavoidable by the plaintiff's conduct in violating the regulations established by the defendants, acting as members of the local board of health, in taking her child from the infected town of Kuttawa to Eddyville, and placing his probably infected clothes in her store.

Nor was there any evidence to show that the defendant Cash's connection with the transactions in question put his conduct in a light different from that of the other defendants. As sheriff he merely obeyed the orders of the local board of health in closing the plaintiff's store. This he was bound to do.

It seems to be well settled that a health officer who by statute is authorized to take action for the prevention of the spread of disease is not liable for injuries resulting from such reasonable and customary measures as he may in good faith adopt or direct for that purpose with regard to persons or matters subject to his jurisdiction.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Archives of Internal Medicine, Chicago

October 15, 8, No. 4, pp. 417-556

1 *Importance of Tonus for Movements of Alimentary Canal. W. B. Cannon, Boston.
2 *Brill's Symptom-Complex; Typhus Fever; Manchurian Typhus. G. A. Friedman, New York.
3 Correlation of Clinical Progress with Results of Immunological Studies in Pulmonary Tubeurculosis. A. H. Caulfield, Gravenhurst, Canada.
4 *Incoagulable Nitrogen of Puncture-Fluids, with Special Reference to Cancer. R. S. Morris, St. Louis.
5 *Influence of Temperature on Output of Heart. H. F. Wolf, New York.
6 *Experimental Cardio-Renal Disease. H. A. Christian, R. M. Smith and I. C. Walker, Boston.
7 Modification of Wohlgemuth's Method for Quantitative Study of Activity of Pancreatic Function. P. B. Hawk, Urbana, Ill.

1. Tonus for Movements of Alimentary Canal.—Cannon's observations have convinced him that double provision is made for the establishment of a state of tonic contraction in the alimentary neuromusculature. Almost the entire length of the digestive canal is supplied with extrinsic nerves which, when stimulated, cause an increase of tone and when destroyed leave the canal at first in a toneless state. And if the canal is entirely separated from the central nervous system it has a remarkable power of developing an independent tonic state. When thus isolated, the canal regains its characteristic movements only as it recovers tone. Tonus is therefore fundamental. It supplies the resiliency that causes the state of tension when the canal is filled, or establishes the state of tension when the canal is only partly filled. The state of tension is the occasion for the contraction of viscera which are walled with smooth muscle holding a nerve net. Refractoriness to stimulation during contraction, and gradually increasing irritability during relaxation, result in a rhythmic response to the condition of tension. The most characteristic feature of the movements of the alimentary canal, their rhythmicity, can thus be accounted for.

The view that tonicity of the neuromusculature of the alimentary canal is a fundamental necessity for the appearance of rhythmic movements harmonizes many diverse observations. It accounts for the failure of efficient motility in atonic states of the stomach and intestines. It gives a reasonable explanation for the existence and importance of extrinsic motor nerves. It is in agreement with the observation that tonic contraction and rhythmic peristalsis disappear together in cases of general bodily weakness, when the depleted central nervous system may be supposed to fail to deliver the necessary tonic impulses; it is also in agreement with the observation that worry, anxiety and distress stop gastro-intestinal movements, for such states, accompanied by splanchnic impulses, abolish tonus. It fits admirably with the fact that the stomach of hungry animals is strongly contracted, for then the tonic state makes the organ ready for instant action on swallowed food. Indeed Cannon is inclined to believe that the sensation of hunger results from tonic contraction of the empty stomach. These are only some of the conditions in which the importance of tonus for movements of the alimentary canal is manifested; doubtless other conditions will suggest themselves.

2. **Brill's Symptom-Complex.**—Brill's symptom-complex is regarded by Friedman as being identical with mild and moderately severe cases of typhus fever.

4. **Incoagulable Nitrogen of Puncture Fluids.**—In view of the demonstration of a proteolytic enzyme or enzymes in carcinoma and sarcoma, it occurred to Morris that a ferment, if secreted into a serous fluid, might disclose its presence by an increase in the quantity of incoagulable nitrogen. In all, twenty-five fluids have been available for examination up to the present time. It would appear that a puncture fluid with incoagulable nitrogen below 0.07 gm. per cent. is probably not of malignant origin. There appear to be at least two possibilities, either that a non-carcinomatous fluid occasionally shows a very large amount of incoagulable nitrogen, or that the case was in reality one of malignant disease. Morris says that no explanation of the high incoagulable nitrogen in certain carcinomatous fluids can be given at the present time. It is highly probable, however, that it is the result of the action of a proteolytic enzyme. It is possible, too, that an anti-enzyme may account for the low values met with in some of the cancerous fluids. Both of these points are under investigation. An attempt is also being made to determine whether the application of this method to the blood may be of service in the recognition of malignancy.

5. **Influence of Temperature on Output of Heart.**—The results of Wolf's experiments lead him to assume that the work of the heart becomes greater during fevers, provided that blood-pressure remains constant. As fevers affect not only the peripheral blood-vessels but also those of the heart, the resulting impairment of the nutrition of this organ must become the more severe, the greater the increase in the work of the heart. This fact is of importance in the treatment of infectious diseases, inasmuch as the work of the heart is a product of the heart in a unit of time, in conjunction with the blood-pressure. The work of the heart increases, therefore, with the pulse-rate, the cardiac discharge and the blood-pressure.

6. **Experimental Cardiorenal Disease.**—The interesting and valuable work done by the authors is reported at great length, and as justice cannot be done this study in an abstract, the reader is referred to the original article.

Bulletin of Manila Medical Society

August, III, No. 8, pp. 130-151

9 Spinal Anesthesia. D. M. Molloy, Manila.
10 Progress of Medical Research in Philippine Islands. W. F. Musgrave.
11 The Taon (Infantile Beriberi) Treated at La Gota De Leche. F. G. Calderon, Manila.

Kentucky Medical Journal, Bowling Green

September, IX, No. 17, pp. 731-786

12 Why Should I Belong to the County Medical Society? J. M. Salmon, Ashland.
13 Acute Poliomyelitis. J. S. Lutz, Highland Park.
14 Pellagra. B. K. Menefee, Walton.

Cleveland Medical Journal

September, X, No. 9, pp. 729-794

15 Nature and Transmission of Trypanosomes. O. T. Schultz, Cleveland.
16 *Macroglossia. J. H. Comroe, York, Pa.
17 *Case of Malformation of Heart. E. P. Edwards, Cleveland.
18 Surgical Ideals and Experiences. N. S. Scott, Cleveland.
19 Surgical Application of Pathologic Physiology in Shock. H. G. Sloan, Cleveland.
20 Removal of Steel from Vitreous; Report of Two Cases. W. P. Chamberlain, Cleveland.
21 Medical Aspects of Breast Tumors. W. D. Fullerton, Cleveland.

16. **Macroglossia.**—Immediately after birth, it was observed that Comroe's patient, a girl, at the time of operation 3 years old, had a very large tongue, which appeared to be normal in every other respect. When the teeth began to erupt, the tongue became very much thicker and many small papillæ appeared on the anterior portion. After the first year, both the tongue and the papillæ became rapidly and progressively larger and appeared to take on a bluish color. About one year ago, the entire tongue became quite sore and there developed rather an alarming hemorrhage, which was controlled with some difficulty. Since then there have been several smaller hemorrhages. There has never been much difficulty in mastication and the speech has been fairly distinct. Physical examination showed a robust, well-nourished child of splendid intellect. The swollen and cyanotic lips were bulged forward by a very much thickened, excoriated, violaceous, papillary mass, which represented the anterior portion of the tongue. When the tongue was protruded, it was found that the anterior half of the organ was considerably hypertrophied and was profusely studded with papillæ varying in size from a small pin-head, posteriorly, to a small pea, anteriorly, and separated by many irregular fissures. Many of the papillæ were pustular and the tongue presented a very angry appearance. The posterior half, however, appeared to be not only healthy but of considerably smaller size, such as might be expected in a child of such age. The anterior margin of the tongue, which protruded between the lips, was about 2.5 cm. in thickness and 5 cm. in width. With the teeth in contact, there was a space of about 2.5 cm. between the incisors. The microscopic diagnosis was lymphangioma. Four months after the operation, the tongue, except for some slight thickening, appeared to be quite normal in every respect.

17. **Malformation of Heart.**—At autopsy on Edward's patient the following conditions were found in the heart: Heart and pericardium enlarged. The heart extended from a point to the right of the sternum to the left nipple. The pericardium showed no changes. The heart presented a remarkable appearance. The larger part of the organ seemed to consist of the right auricle. The right heart composed at least two-thirds of the whole organ. The venæ cavæ was large and distended. The right ventricle was not to be made out on inspection. On dissection the following changes were found: The right ventricle was enormously dilated; the walls thin and the musculi pectinati prominent. The foramen ovale seemed entirely closed, but a probe could be passed through the very much thickened septum at one point. The tricuspid orifice and right ventricle were represented by a mere pit in the mesial wall of the auricle below the foramen ovale. This pit was 8 by 5 mm. Leading from the rudiment of a ventricle, along the anterior portion of the aortic ring could be traced a fibrous cord about 4 mm. in diameter, which was evidently the obliterated pulmonary artery, for it was attached to the ductus arteriosus where that vessel joins the branches of the pulmonary. The left auricle was about normal, but the left ventricle was large. The wall averaged 6 mm. in thickness. The mitral and aortic valves showed no changes. The aorta was very large but smooth and elastic. The ductus arteriosus easily admitted a 2 mm. probe and it was continuous with the first branches of the pulmonary artery, so that the blood reached the lungs through it.

Journal of Tennessee State Medical Association, Nashville

October, IV, No. 6, pp. 215-250

22 *Injuries of the Head. D. Eve, Nashville.
23 Post-Abortive Sepsis. C. A. Robertson, Nashville.
24 Significance of Tongue in Diagnosis. H. E. Christenbery, Lonsdale.
25 Sarcoma of Stomach; Report of Case. J. Overton, Nashville.
26 *Two Outbreaks of Typhoid in Institution Traced to Bacilli Carriers. T. Weaver, Nashville.
27 *Need of Reform in Public Schools in Regard to Hygiene and Sanitation. O. Dulaney, Dyersburg.

22, 26 and 27. Abstracted in The Journal, May 6, 1911, pp. 1354 and 1355.

Surgery, Gynecology and Obstetrics, Chicago

October, XIII, No. 4, pp. 365-480

28 *Use of Silver Wire in Opening Kidney. E. K. Cullen, Baltimore, and H. F. Derge, Eau Claire, Wis.
29 Etiology of Appendicitis. J. D. Robertson, Chicago.
30 Case Illustrating Occasional Advisability of Resecting Tuberculous Glands of Mesentery. K. W. Monsarrat, Liverpool, England.
31 *Operative Versus Conservative Treatment of Certain Forms of Bone Tuberculosis. [illegible] Francisco.
32 Diagnosis of Hour-Glass [illegible]ffalo.
33 *Blood-Supply of Duoder [illegible], Edingurgh, Scotland.
34 Cesarean Section. A. B. Davis, New York.
35 Consideration of Anatomic Relations of Gut-Tube. N. Ginsburg, Philadelphia.
36 Complications of Appendicitis. J. N. Hall, Denver.
37 Saving the Hundredth Man. W. P. Carr, Washington, D. C.
38 Tr[illegible] Fractures. N. M. Percy, Chicago.
39 M[illegible] Five Cases of Acute Intestinal [illegible] C. E. L. Burman, Pietermaritzburg, Natal, Africa.

40 A Pseudohermaphrodite. T. S. Cullen, Baltimore.
41 *Fracture Clamp for Open Treatment of Fractures. R. Brown, Santa Barbara, Cal.
42 Nitrous Oxid-Oxygen Anesthesia. E. I. McKesson, Toledo, O.

28. **Use of Silver Wire in Opening Kidney.**—From the research made by Cullen and Derge it would appear that in nephrotomy with the silver wire the following represent the main advantages of the wire incision over that of the knife, as obtained in experiments. 1. The amount of bleeding at operation averaged only one-half that observed in the knife incision. 2. The bleeding was readily controlled. 3. There was no postoperative hemorrhage. 4. The resultant infarct was much smaller.

31. **Operative vs. Conservative Treatment of Bone Tuberculosis.**—Huntington is convinced more than ever that the medullary structure, at or near a joint, can, with perfect impunity, be removed in its entirety; this to be followed by complete repair of the resultant bone defect. With added experience and with deepened conviction, he feels warranted in applying this statement to tuberculous disease in other localities than the head of the femur, toward which his efforts were originally directed.

33. **Blood-Supply of Duodenum.**—The supraduodenal artery described by Wilkie supplies what he calls the critical area of the duodenum, the upper two-thirds of the anterior wall of the first part of the duodenum, and the upper third of the posterior wall. Its origin is variable and while in the majority of the cases examined it arose from the upper part of the trunk of the gastroduodenal artery, in other cases it was found springing from the common hepatic trunk, from the right or from the left hepatic branches, or from the cystic artery. In these cases, when injected, it formed a very striking picture and impressed one with the precarious nature of the blood-supply of this part of the intestine. In the majority of the cases injected, the supraduodenal artery had no communication of any size with any other gastric or duodenal artery and the application of considerable force failed to drive the injection beyond this limited area of the duodenum. In these cases the supraduodenal artery appeared to be an end artery. In some cases, however, twigs communicating with the pyloric artery or with the duodenal branch of the right gastro-epiploic artery were plainly visible; the anastomosis was, however, never a very free one. When the supraduodenal artery arises from the gastroduodenal artery it usually takes the form of a short trunk, which, arising on a level with the upper border of the duodenum, soon ends by dividing into a spray of branches giving a characteristic fountain-like appearance, the branches for the most part arching over to the front of the duodenum. In three cases the supraduodenal vessel was of large size and ran outwards along the upper border of the duodenum for several inches, sending numerous branches to both its anterior and posterior walls.

In four of the forty injected cases, there was definite evidence of old duodenal ulceration, undiagnosed before death. In one case this was so definite as to have produced a marked stenosis of the first inch of the duodenum. In three of these cases the scars of the ulcers were situated on the anterior wall of the duodenum in the area supplied by the supraduodenal artery and the branches of this vessel could be traced into the scar tissue and appeared to have little or no anastomotic connection with other duodenal vessels. The origin of the supraduodenal artery in these three cases is of interest. In one case it arose from the left hepatic branch, in another from the common hepatic trunk and in the third case it was represented by two vessels, both arising from the right hepatic branch and running vertically downwards. In the fourth case the scar was situated on the upper border of the duodenum ½ inch from the pylorus. In this case injection of the celiac axis artery, without ligature of its branches, failed to inject the first ¾ of an inch of the upper border of the duodenum, even after considerable force had been applied and left an area of pallor in the apparently healthy duodenal wall around the scar.

On dissecting this specimen, a small supraduodenal artery was found arising from the gastroduodenal artery. It sent only one small branch to this pale area which also received a small twig from the pyloric artery. Whatever be its point of origin, the artery soon divides into several branches. One of these, a small one, usually runs upwards in the gastrohepatic omentum; the larger branches descend to the anterior wall of the duodenum, one or more small branches going to the upper part of the posterior wall. In several cases a ligature was applied to this vessel and the celiac axis artery was then injected. In these cases an uninjected area was left and this corresponded almost exactly to the limits of the critical or ulcer-bearing area. In the majority of cases a second artery was found, springing from the gastroduodenal about ½ inch above its bifurcation and supplying the posterior wall of the first part of the duodenum and sometimes reaching to its second part. This vessel, though not constant, was generally present and Wilkie calls it the retroduodenal artery. The lower third of the anterior aspect of the first inch of the duodenum is supplied by a branch which, arising from the right gastro-epiploic artery or from the superior pancreaticoduodenal artery, turns upwards about ¼ of an inch to the right of the pyloric vein of Mayo.

41. **Clamp for Open Treatment of Fractures.**—The clamp devised by Brown is made from a single piece of metal of good tensile strength and flexibility. His preference is for Russia iron, though silver, vanadium steel and aluminum are serviceable. The clamp consists of two long parallel bands tapering at the lower ends and joined at the upper ends by a cross bar. There are two or three other cross bars equidistant from each other, the lowest somewhat above a point one-half way down on the parallel bands. The cross bars are elevated 1/32 to 3/32 of an inch above the parallel bands on one surface. Each end of the upper cross bar is perforated in such manner as to allow the passage of the corresponding long bands when bent circular. The clamp is made in various sizes adaptable to any of the long bones.

Journal of Medical Association of Georgia, Augusta

October, I, No. 3, pp. 75-116

43 *Simple Technic in Gynecologic and Obstetric Perineal Repair, Incomplete and Complete. R. R. Kime, Atlanta, Ga.
44 Treatment of Pellagra. H. F. Harris, Atlanta.
45 Sambon's New Theory of Pellagra and Its Application to Conditions in Georgia. S. R. Roberts, Atlanta.
46 Gastric Intestinal Disorders in Pellagra. J. C. Johnson, Atlanta.
47 Clinical Analysis of Pellagra. S. R. Roberts, Atlanta.
48 Malaria; Report of Some Cases of Irregular Remittent Malaria. H. C. Whelchel, Douglas.
49 Antityphoid Vaccination in U. S. Army. C. H. Halliday, U. S. Army.
50 Case of Empyema. A. W. Simpson, Washington.
51 Eyestrain. O. H. Johnson, Athens.
52 Obscure Appendicitis; Report of Cases. J. P. Proctor, Athens.
53 *Conservation of Health.* T. D. Coleman, Augusta.
54 Warning Concerning Use of Salvarsan. W. C. Slusher, Bluefield, W. Va., and E. B. Burchell, New York.

43. Abstracted in THE JOURNAL, June 10, 1911, p. 1754.

New York Medical Journal

October 21, XCIV, No. 17, pp. 813-860

55 *[illegible] Produced in Monkeys from Dust [illegible] and W. C. Thro, New York.
56 [illegible] G. F. Lydston, Chicago.
57 [illegible] H. Adler, Philadelphia.
58 [illegible] by Intravenous Administration of Acid and Alkaline Solutions of Salvarsan. G. M. MacKee, New York.
59 Action of Salvarsan on Eye and Ear. F. P. Hoover, Jacksonville, Fla.
60 Ear Complications of Exanthemata. T. L. Saunders, New York.
61 Tuberculosis of Both Ears Cured by Tuberculin. J. S. Cipes, Albuquerque, N. Mex.
62 *Treatment of Fracture of Shaft of Femur. J. Douglas and J. N. Drury, New York.
63 Case of Aneurysm of Thoracic Aorta Treated by Abram's Method. L. C. Boyd, Long Beach, Cal.

October 28, XCIV, No. 1717, pp. 861-908

64 Relation of Biophysical Laws of Osmosis to Nasal Vasomotor Processes. J. Wright, New York.
65 Present Status of Vivisection in Medical Profession. M. J. Clurman, New York.
66 Etiologic Factors of Purulent Chronic Otitis Media. S. M. Smith, Philadelphia.
67 Acute Otitis Media. G. L. Richards, Fall River, Mass.
68 Comparative Merits of Various Methods Employed in Operations for Septal Spurs. J. B. Kanter, New York.
69 Statistical Review of Work of Tuberculosis Clinics of Department of Health for 1910. B. H. Waters, New York.
70 Dental Radiography. M. K. Fisher, Philadelphia.

55, **Experimental Poliomyelitis.**—A number of additional observations are cited by the authors which they believe prove their theory that: (1) Poliomyelitis is propagated by dust. (2) That the nasopharynx probably is the point of entry. (3) Acute poliomyelitis is both infectious and contagious. It becomes perfectly evident that prophylactic measures should be most rigidly carried out in order to check the spread of this disease.

62, **Treatment of Fracture of Femur.**—The purposes of Drury's splint in fractures of the shaft of the femur are: 1. To obtain the maximum amount of extension with the least amount of weight attached to the Buck's extension apparatus. 2. To tell at a glance the amount of extension maintained by the Buck's extension. The splint is made of ¼-inch soft pine wood, and consists of two sections—the upper part, of a thin, box-like arrangement a little more than ¾ of an inch wide; the lower part of a long ¼-inch board, which slides into the upper part, with a foot piece extending at right angles.

Before applying the splints the legs are measured and the amount of shortening of the injured leg is noted. The Buck's extension apparatus is applied, first using moleskin plaster. Next, coaptation splints are applied around the thigh at the seat of fracture. The splint is now applied, the upper box-like part extending from the axilla downward to the seat of fracture, and firmly bandaged to the body and upper part of the thigh. The lower part of the splint consisting of a long ¼-inch board which projects into the upper part for at least 2 feet, is now firmly bandaged downward from the seat of fracture to the foot, each part being bandaged separately. Extension is now made on the Buck's apparatus, and the lower part of the splint slides downward from the upper part, carrying with it that part of the thigh and leg below the seat of fracture. To maintain this amount of extension, sufficient weight is attached to the rope of the Buck's apparatus extending over a pulley at the foot of the bed. After the muscular spasm wears off, the amount of weight may be decreased without interfering with the amount of extension.

Medical Record, New York

October 21, 80, No. 17, pp. 809-858

71 Specialism in Medicine. E. B. Cragin, New York.
72 *Results in Two Cases Treated by Vaccine Therapy. C. L. McDonald, Cleveland.
73 Tonsillectomy; Special Reference to Quinin Anesthesia. R. D. Sheedy, New York.
74 *Method of Treatment of Empyema in Young Children. J. H. Kenyon, New York.
75 Diagnostic Value of Use of Sphygmomanometer in Examinations for Life Insurance. J. W. Fisher, Milwaukee, Wis.
6 *Concentric Progressive Diminution of Area of Liver Dulness in Differentiation of Free Gas in Peritoneal Cavity from Abdominal Tympanites. H. W. Berg, New York.
77 Practical Consideration of Hyperchlorhydria and Hypersecretion. C. S. Fischer, New York.
78 Prophylaxis of Oropharynx and Nasopharynx. J. H. Guntzer, New York.
79 Case of Aspirin Poisoning. D. I. Macht, Baltimore.

October 28, 80, No. 2138, pp. 859-908

80 Psychanalysis and Correction of Character. E. W. Scripture, New York.
81 *Why Is the Apex the Point of Election in Tuberculosis of Lungs? T. G. McConkey, San Francisco.
82 Arc Light in Medicine. A. D. Rockwell, New York.
83 Electrical Treatment of Arterial Hypertension. J. H. Burch, Syracuse, N. Y.
84 Vaccine Therapy in Acute Rheumatic Polyarthritis. W. C. Wolverton, Linton, N. Dak.
85 *Albumin Reaction of Sputum in Pulmonary Tuberculosis. M. Fishberg and D. Felberbaum, New York.
86 Three Cases of Brain Abscess. J. Frank and G. B. Hassin, Chicago.
87 *Methylene-Blue Test of Urine of Cancer Patients. J. R. Verbrycke, Washington.

72. **Vaccine Therapy.**—McDonald cites the histories of two cases of chronic infection which were quickly cured with the aid of vaccine therapy. In both cases other treatment had failed. They were both due to the *Staphylococcus albus* and were treated with stock vaccines prepared by the author.

74. **Treatment of Empyema in Young Children.**—Kenyon reports good results following his method of treating empyema in young infants. He opens the pleural cavity along the aspirating needle, making an opening so small that it will just permit the introduction of a rubber drainage tube, so inserted as to let as *little* pus as *possible escape. This tube is a long* one and is connected with a bottle of warm saline fluid so arranged that the fluid is aspirated into the chest, and dilutes the pus. The operation is very simple and quick, and is not accompanied by shock. The apparatus causes no discomfort to the child, and the escape of the pus is slow and does not cause a pneumothorax. There is little leakage around the tube and mixed infection is avoided. Convalescence is shorter than usual, and drainage is efficient.

76. **Differentiation of Free Gas in Peritoneal Cavity.**—Berg has found that *free gas in the peritoneal cavity, as contra*distinguished from tympanitic distention of the abdominal hollow viscera, is shown by the substitution, for the area of liver dulness and flatness, of a tympanitic resonance, rapidly progressing synchronously from above downward, and from below upward, the last to disappear being the mid-area of liver flatness.

81. **Point of Election in Tuberculosis of Lungs.**—According to McConkey, if the fact that tuberculosis of the lungs is secondary to pleural involvement is once appreciated, it will not be difficult to understand why such a very large percentage of pneumonia and pleurisy cases eventually terminate in phthisis. The bacilli contaminating the serum or lymph *which lubricates the pleural surface are usually phagocyted* or prevented from getting a lodgment on the pleura when the phagocytes have a chance to attack them in this thin film of lymph. The apex is peculiar in this: It has only its own scant lymph transudate which is immediately carried below by gravity. This effect of gravity will be more pronounced in those with a "peaked" apex.

85. **Albumin Reaction of Sputum in Pulmonary Tuberculosis.**—The authors submit a report on the results of the chemical examination of the sputum in cases of pulmonary tuberculosis in the wards of the Montefiore Home. Many of the patients have been in this institution for several years, one even as long as twenty-four years, so that the diagnosis, if made, is quite reliable. On the whole, their results do not confirm Roger's statements to the effect that in every case of tuberculosis the sputum gives a positive albumin reaction. They found some cases of undoubted tuberculosis in which careful analysis of the sputum gave negative results. In forty-two specimens of sputum showing the presence of tubercle bacilli, the albumin test was also positive. It has been their experience that the number of bacilli present in the field has no relation to the amount of albumin found by the chemical test. Some specimens of sputum showing an enormous number of bacilli had only a faint trace of albumin, which was sometimes so slight as to render it altogether doubtful whether the reaction was positive. It appears that the activity of the process has considerable influence on the intensity of the chemical reaction. In active, progressive cases the amount of albumin is greater than in quiescent or healing cases. In fibroid cases the amount is often infinitesimal, or entirely absent. Three cases of tuberculosis, with bacilli in the sputum, which gave negative results at the first examination for albumin, reacted positive at a subsequent one. The lesion in the lungs in all these three cases was rather quiescent, the fibroid changes being quite marked. Seven cases of unquestionable tuberculosis, but in which tubercle bacilli were not found when the sputum was examined, gave a positive albumin reaction, two only faintly. There were also three cases of tuberculosis, with tubercle bacilli in the sputum, and the very specimen giving positive results bacteriologically reacted negatively as regards the albumin reaction. One of these was a case of abdominal malignant growth with general metastases (confirmed by autopsy) and with a complicating pulmonary tuberculosis with bacilli in the sputum. Of the cases of pulmonary emphysema examined, two gave a positive albumin reaction and three were negative. Of five cases of bronchial asthma the sputum was negative in all, while one case of asthma complicated by emphysema and cardiac dilatation reacted positively. The sputum was also positive in two cases of Pott's disease.

87. **Methylene Blue Test of Urine of Cancer Patients.**—Verbrycke is emphatically of the opinion that this test cannot even be credited with giving contributory evidence when positive; nor is a negative reaction of any worth.

Boston Medical and Surgical Journal

October 26, CLXV, No. 17, pp. 629-668

88 Open-Air Schools. D. Snedden, Boston.
89 Open-Air Rooms and Schools. T. F. Leen, Boston.
90 Replies to Circular Letters Concerning Fresh-Air Rooms and Out-Door Schools, Sent Out by Associated Tuberculosis Committees of Massachusetts Medical Society. J. B. Hawes, Boston.
91 *Brown-Séquard's Epilepsy in Guinea-Pigs. L. B. Alford, Palmer, Mass.
92 *One Hundred and Fifty-Eight Cases of Heat Prostration Treated at Boston City Hospital, July 2-13, 1911. W. D. Reid, Boston.
93 Heat Prostrations. I. C. Walker, Boston.
94 Progress in Ophthalmology, 1911. E. W. Clap, Boston.

91. **Brown-Sequard's Epilepsy in Guinea-Pigs.**—A very extended series of experimental observations was made by Alford on this question and he reports his findings at great length. When watched in their cages the scratching reactions of so-called "epileptic" guinea pigs are seen to be intense, prolonged and poorly coordinated, and to occur more frequently than in normal animals. Preventing this scratching by removing its most potent exciting factor, viz., the body lice, prevents the appearance of "epilepsy" in newly-operated animals and causes it to disappear in animals already "epileptic." The value of section of the sciatic nerve seems to be wholly in the incoordination of movement in the posterior limb that results and causes the scratching reactions to be ineffective. Ineffectiveness of scratching produced by other measures, as, for instance, by removal of the claws of the hind feet, has the same effect. The "epileptogenous" area may be increased in extent in the posterior direction by interfering with the movements of the head. The explanation of the fact that "epileptic" guinea-pigs scratch on stimulation while normal animals do not may be either that the frequent repetition of the scratching movements has made them the reaction of choice in place of struggling attempts, or that disturbances in the skin have made it impossible for the animal to distinguish between stimuli of various sorts. The "complete attack" or convulsion is regarded as a reflex phenomenon in which it is possible to recognize the elements of the scratch reflex somewhat distorted by the disturbance of reciprocal innervation. This conception receives some support from the facts (a) that spinal irritants such as strychnin and caffein increase the ease with which convulsions may be elicited and the severity of the convulsions themselves, while the reflex depressant, alcohol, markedly decreases both these factors; and (b) that operations which increase the spinal reflex irritability, i. e., removal of some or all of the nervous centers above the medulla, also facilitate the convulsions. With regard to the localization of the mechanism of Brown-Séquard's "epilepsy" in the nervous system, it has been found: (a) that convulsions are present after removal of all the centers above the pons; (b) that they may be obtained from the pons, medulla and cervical portion of the cord when these structures are isolated; and (c) that they may also be obtained from the dorsal and lumbar portions of the cord after high dorsal section. As far as can be determined, the tracts of the cord that are involved are those of voluntary motion. The scratching reaction during anesthesia is regarded as the result of stimulation by the anesthetic of the same nervous mechanism as is involved in the "complete attack." The presence of "epilepsy" in the offspring of "epileptic" animals, Alford says, may be explained in other ways than by assuming inheritance, but Brown-Séquard's "epilepsy" cannot as yet be related to epilepsy in man.

92. **Heat Prostration Treated in Boston City Hospital.**—The treatment employed in these cases varied according to the kind of case. Exhaustion Type.—Dry rub, blankets, sometimes heaters, ice bag to the head and stimulation according to the individual case. Whiskey, aromatic spirits of ammonia, caffein and strychnin and occasionally epinephrin were used. Prostration Type.—Ice cap, ice pack, cold pack or sponge bath, according to the temperature, and rest in bed with moderate stimulation as above if there were signs of weakness. Heat-Stroke Type.—Here there are four indications: (1) Reduction of temperature, (2) maintenance of cardiac action, (3) control of convulsions, (4) treatment of complications. (1) Tub baths and ice packs were the choice in combating the high temperature. If the heart action was poor, the ice pack was always used as the patient need not be moved so much. Ice water enemata were used in a few instances, but as a rule a proper use of external measures seemed sufficient. (2) Maintenance of cardiac action often required stimulation of a heroic type, mostly hypodermically, as the patients were generally unconscious. Generous use of atropin was practiced for pulmonary edema, and strychnin, camphor and various forms of shock enemata were directed at the failing heart. (3) Convulsions were so frequent in the heat-stroke cases that it became the practice towards the end of the so-called epidemic to administer morphin and sometimes hyoscin with the plan of repeating the morphin in case convulsions nevertheless developed. (4) The treatment of complications as they occurred varied in no way from cases in which they were the primary disease. About five of these unconscious men required catheterization for retention of urine.

New York State Journal of Medicine, New York

October 11, No. 10, pp. 451-504

95 Certain Phases of Diagnosis by Means of Cystoscope and Cysto-Urethroscope. L. Buerger, New York.
96 Hematologic Factor in Causation of Uterine Hemorrhage. A. Sturmdorf, New York.
97 Essay on Man. M. B. Downer, Woodstock, N. Y.
98 Cancer. W. B. Jones, Rochester, N. Y.
99 *Operations for Adherent Retrodisplaced Uteri by Shortening Round Ligaments Through Inguinal Canal After Abdominal Section Through Transverse Incision. L. Broun, New York.
100 *Olive Oil in Postoperative Nausea. C. R. Hyde, Brooklyn.
101 *Auscultation of Cough. A. H. Garvin, R. Brook, N. Y.
102 Relationship of Tabes to General Paralysis. E. D. Fisher, New York.
103 *Chronic Appendicitis; Postoperative End-Results. E. M. Stanton, Schenectady, N. Y.
104 *Significance and Therapy of High Blood-Pressure. J. F. Rooney, Albany, N. Y.
105 Value of Eye in Diagnosis of Pathologic Conditions. T. Dixon, Brooklyn.
106 Plan to Improve Medical Expert Testimony. S. W. Little, Rochester, N. Y.
107 Errors in Diagnosis. E. B. Kaple, Elbridge, N. Y.
108 *Diagnosis and Surgical Indications of Duodenal Ulcer. J. T. Pilcher, Brooklyn.
109 Retropharyngeal Abscess, Its Diagnosis and Treatment. M. J. Levitt, Brooklyn.
110 Case of Meningococcic Meningitis in Three-Months-Old Infant Successfully Treated with Flexner Serum. A. Spingarn, Brooklyn.
111 Gunshot Wounds of Abdomen. E. A. Van Veer and J. L. Bendell, Albany, N. Y.
112 Opposition Against Reform of Medical Onomatology by New Medical Dictionary. A. Rose, New York.
113 Some Factors in Operative Technic and Management Which Make for Success or Failure. W. B. Chase, Brooklyn.

99 and 108. Abstracted in The Journal, May 6, 1911, pp. 1351 and 1352.

100, 101, 103 and 104. Abstracted in The Journal, May 20, 1911, pp. 1504, 1505, 1506 and 1507.

Bulletin of American Academy of Medicine, Easton, Pa.

October, XII, No. 5, pp. 253-342

114 *To What Extent Are Suicide and Other Crimes Against Person Due to Suggestion from Press? H. B. Hemenway, Evanston, Ill.
115 *Neurotic Books and Newspapers as Factors in Mortality of Suicide and Crime. E. B. Phelps, New York.
116 *The Press and Crimes Against Person. F. Fenton, Mt. Holyoke, Mass.
117 *Newspapers and Crime. W. S. Wadsworth, Philadelphia.

114, 115, 116 and 117. Abstracted in The Journal, July 22, 1911, pp. 311 and 312.

Journal of Minnesota State Medical Association and Northwestern Lancet, Minneapolis

October 15, XXXI, No. 20, pp. 481-506

118 Conditions Other Than Appendicitis in Right Iliac Fossa. W. A. Dennis, St. Paul.
119 Report of Special Tuberculosis Commission Appointed by Minnesota State Board of Health. W. J. Marcley, Minneapolis.
120 Mental Defective and His Relation to Criminality. O. H. Wolner, St. Cloud.
121 Toxemia of Pregnancy. L. W. Day, Minneapolis.

West Virginia Medical Journal, Wheeling

October, VI, No. 3, pp. 111-146

122 Medicine [illegible] Wingerter, Wheeling.
123 Trend of [illegible] P. Herring, Baltimore.
124 Iodin Met[illegible] J. E. Cannaday, Charleston.
125 Melena Neonatorum. C. D. Holland, Fairmont.
126 Pellagra; Report of Two Cases. T. R. Evans, Charlottesville.
127 Fibroma of Thigh. G. D. Jeffers, Parkersburg, W. Va.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

October 14, No. 2650, pp. 869-960

1 Auricular Fibrillation. J. Mackenzie.
2 Aspects of Medicine as a Profession. J. T. J. Morrison.
3 A Large Fibrocystic Tumor Distending the Buttock. J. D. Malcolm.
4 *Congenital Diaphragmatic Hernia Associated with Embryonic Organs. L. Rawes.
5 Conveyance of Electricity Through Solids, Liquids and Gases and Production of Radiation. Sir O. J. Lodge.
6 Ionic Medication and Theory of Ions. H. L. Jones.
7 Roentgenotherapy of Ringworm. J. Hall-Edwards.
8 Therapeutics of Radium. W. D. Butcher.
9 Radium in Rodent Ulcer and Other Skin Conditions. J. H. Sequeira.
10 Action of Filtered Radium Rays When Applied Directly to Brain. Sir V. Horsley and N. S. Finzi.
11 Diathermic Treatment of Circulatory Disorders. F. Nagelschmidt.
12 Roentgenotherapy of Malignant Disease. E. R. Morton.
13 Treatment of Certain Diseases of Alimentary Tract by Roentgen Rays Combined with Internal Administration of Metallic Silver. F. Hernaman-Johnson.
14 Fractures Undiagnosable Except on Roentgen-Ray Examination. C. F. Bailey.
15 Pyelography and Use of Collargol in Diagnosis of Diseases of Urinary Tract. W. I. Bruce.
16 Differences in Appearances of Phthisical Chests as Shown Before and After Treatment. W. B. Knobel.
17 Radium Water Therapy. W. Armstrong.
18 Radium Emanation and Physiologic Processes. S. Saubermann.
19 Treatment of Chronic Adhesive Processes in Middle Ear. M. Yearsley.
20 Diagnostic Value of Suction Syringe in Maxillary Antral Sinusitis. P. Watson-Williams.
21 Dysphagic Conditions Wrongly Attributed to Esophageal Spasm. W. Hill.

4. **Congenital Diaphragmatic Hernia.**—Rawes' patient was a baby which lived only twenty hours after birth. The following conditions were found at the necropsy: The right lung was small, measuring about 3 inches by 1 inch, the greater part of that side of the chest being empty. The left lung was extremely small and resembled a large raisin, the whole organ being about the size of a half-penny; filling the remainder of the left side of the chest was the stomach and the whole of the small and large intestine, with the exception of the descending colon and rectum. The small intestine was empty and massed together; the large bowel contained meconium, which could be expressed per anum. The greater curvature of the stomach was directed upward with the posterior surface of the organ lying anteriorly, so that the whole viscus was "upside down." The appendix was normal and measured 1½ inches. The heart was small and pushed over to the right side, although lying in close apposition to the left lung. The liver was normal in size and position. The pancreas and left kidney were bound down together in the left renal region. Both kidneys resembled a small walnut in size and presented a rough fissured surface. There was a large opening in the center of the left side of the diaphragm (with a smooth rounded edge), which would admit three fingers quite easily.

Lancet, London

October 14, CLXXXI, No. 4598, pp. 1055-1116

22 Past Work of Obstetrical Society of London and Obstetric and Gynecologic Problems Still Awaiting Solution. A. Routh.
23 *Intracranial Murmurs in Their Relationship to Tinnitus Aurium. T. B. Hyslop.
24 *Intestinal Hemorrhage in Typhoid and Its Relation to Agglutinating Power of Blood. H. Whitehead.
25 Acute Middle-Ear and Mastoid Inflammations. S. F. Snow.
26 *Ophthalmo-Reaction of Calmette in Early Diagnosis of Paralysis. A. S. Hosford.
27 *Researches in Epilepsy. D. M. Alexander.
28 Case of Acute Antrum of Highmore with Eye Complications. J. R. Foster.
29 Rupture of an Empyema Into the Esophagus. W. A. Bullough.

23. **Intracranial Murmurs and Tinnitus Aurium.**—Some facts and theories pertaining to intracranial physics and pathology which may, in part, serve to explain the origin of some of the entacoustical phenomena which may be appreciable not only subjectively by the patient as tinnitus, but also objectively by the observer as intracranial murmurs, are presented by Hyslop. He says that in cases in which the sheath of the auditory nerve is affected by an increase of pressure in the lymphatic fluid, direct stimulation of the nerve may cause subjective phenomena somewhat similar to those occurring in connection with the visual sense when the specific energy of the visual apparatus or tracts is irritated and manifested by symptoms ranging from scintillating scotomata to mere sparks of light or pressure phosphenes. Hyslop believes that such direct stimulation is rare except in cases in which degeneration of the auditory nerve is taking place. Another point to be noted is that, although pulsatile tinnitus is common, rarely do we have evidence of similar pulsatile phenomena in connection with any other of the cranial nerves which, in all probability, would be subject to somewhat identical conditions of influence. The point to recognize is that the fluid from the subarachnoid lymph spaces, when forced from the brain by increased intracranial blood-pressure, not only passes into the perilymphatic space of the labyrinth and thereby tends to modify the pressure of the endolymph, but it also serves as a more direct conducting medium for sound vibrations arising in connection with the pulsatile or other movements of the brain.

There are three different kinds of brain movements: (1) *Pulsatile movements communicated from the pulsations of* the large basal cerebral vessels; (2) respiratory movements, *in which the brain rises during expiration and falls during* inspiration; and (3) vascular elevations and depressions which alternate and are due to periodic dilatation and contraction of the blood-vessels. This last is a peristaltic arterial movement, regulated by the vasomotor center, and occurs from two to six times per minute. It is in connection with one or other of these movements that sound vibrations are apt to occur in the arterial, venous or lymphatic systems. The pulsatory movements of the brain are exceedingly interesting, and undoubtedly they most frequently give rise to intracranial murmurs. From the circle of Willis the arteries ascend and their currents are directed upward in the same direction as the venous currents. The large arteries at the base of the brain communicate a movement to it, each pulse wave raising it up and thereby compressing the cerebral veins. In expiration the venous blood is dammed back into the sinuses and the brain expands at the expense of the cerebrospinal fluid. During inspiration the veins are emptied by suction action, the brain collapses and the cerbrospinal fluid re-enters the cranial cavity. During these movements the cerebrospinal fluid is subjected to doubly compensatory movement, i. e., the pulsatile movement is mainly intracerebral and is concerned mainly with the passage of the fluid through the cerebral tissues and the ventricles, and the respiratory movement which is concerned mainly with the flow of the fluid to and from the cranium. Thus, it is that the vascular mechanism of the brain determines not only the intracerebral, arterial and venous movements, but it also serves to give a peristaltic movement to the ventricles of the brain, whereby the cerebrospinal fluid is slowly passed onward. Excess of cerebrospinal fluid within the cranium is not, as a rule, attended by tinnitus.

Anemia and hyperemia are powerful agents in modifying pressure equilibrium. The high arterial pressure which occurs in Bright's disease is attended by undue pressure on the peri- and endolymph, and gives rise to tinnitus. In hemicrania due to gout the intracranial arteries may be dilated or hyperextended, and by their more forcible action not only drive the cerebrospinal fluid from the cranial cavity, causing increased tension in the labyrinth, but, by the same process, force the brain toward the internal table of the skull and thereby render it possible for the pulsatile waves to come into almost direct contact with it. So it is in conditions of plethora culminating in apoplexy, of which tinnitus is an early symptom. Tinnitus is often a prominent and distressing symptom in anemia and chlorosis. From certain anatomic and clinical data there appears to be no doubt that intracranial venous murmurs may occur in the same way.

24. **Intestinal Hemorrhage in Typhoid.**—Whitehead cites cases to prove that intestinal hemorrhage gives rise to an increased formation of agglutinins in the blood lasting for a short time, which may help to tide the patient safely over a dangerous period. As a result of his investigations, Whitehead

recommends that, in many toxic cases of typhoid, and more especially in those in which the blood gives a poor agglutination reaction, phlebotomy to the extent of about 10 ounces (according to the physical condition of the patient) be tried as a treatment.

26. **Ophthalmo-Reaction of Calmette in Early Diagnosis of Phthisis.**—Hosford has never obtained a positive result, except in true cases, nor did he see any bad results whatever from the use of the test as regards the eye. If a patient in a suspicious case fails to give a reaction, then, he says, the test should be applied on three different occasions, with an interval between each application of from three to four weeks.

27. **Researches in Epilepsy.**—Attempts to produce an epileptic animal and researches on the blood and urine by Alexander gave uniformly negative results with one exception. There appears to be a relationship between the fit and a low urea-ammonia ratio.

Practitioner, London

October, LXXXVII, No. 4, pp. 409-596

30 *Flatulence. Sir R. W. Burnet.
31 Pruritus Ani. Sir F. Wallis.
32 *Measles. Sir J. F. H. Broadbent.
33 Burns and Scalds. Sir L. H. Ormsby.
34 Dysmenorrhea. G. F. Blacker.
35 Common Ailments of Eye. A. Lawson.
36 Croup. F. J. Poynton.
37 *Backache. C. Berkeley.
38 Cuts, Bruises and Sprains. R. H. A. Whitelocke.
39 *Biliousness. W. S. Fenwick.
40 Hiccough. J. W. Carr.
41 Intestinal Worms. E. Cautley.
42 Renal Pain. C. Wallace.
43 *Morbid Blushing. H. Campbell.
44 Hemorrhoids. P. L. Mummery.
45 Epileptic Fits. G. Johnston.
46 Profuse Sweating. C. N. Meachen.

30. **Flatulence.**—Ascertain the predisposing cause, says Burnet. and put the patient, if possible, on such a plan that he will gradually be able to eat all wholesome, though probably for a time, at least, very simple and light, articles of diet without discomfort and with great benefit to his general health and well-being. The less he comes to think of his diet and the more he is able, as time goes on, to forget his former flatulence and distention, the happier and better he will be. At first, no doubt in most cases the diet will have to be carefully chosen and somewhat restricted. A rather dry diet will be found to suit best in nearly all cases, little liquid being allowed with meals. This excludes all soups and broths at the beginning of a meal and allows of only a small quantity of fluid toward the close of the meal. What the special drink should be has to be decided in each particular case. Some will be best with plain water, others may require a little stimulant, alcohol in some form. Tea must be limited in quantity and must be freshly made. As a source of flatulence the excessive use of tea among well-to-do people should always be borne in mind. Animal food is, as a rule, best digested by these patients; it must be carefully selected and well, though plainly cooked—underdone rather than overdone. Much green vegetable will usually not be well borne, and what is given should be rubbed through a sieve, cooked as spinach is served. Often it is best to forbid potato, for a time, and to substitute toast or second day's bread. Farinaceous foods have to be given carefully and the effect watched, but where digestion by the stomach is chiefly at fault, starchy foods, as they are dealt with chiefly in the intestines, may be given in greater amount.

Nux vomica is one of the most useful remedies in these cases and it may be given in tincture, or in pill, with 1/4 grain of capsicum and 2 grains of compound rhubarb pill. Bismuth is of use in many instances, with an alkali such as bicarbonate of sodium and calumba or other bitter infusion. Salicylate of sodium with liquor pepticus, nux vomica and spirits of chloroform seems useful in a certain number of cases. Extract of malt given with or just after meals helps in those cases in which the digestion of starchy foods is obviously difficult. A few drops of dilute hydrochloric acid in water shortly after meals is often decidedly beneficial. In some cases iron and quinin seem to be indicated. A pill which is often well borne consists of 1 grain of reduced iron. with extract of nux vomica, quinin and pillula rhei compositus. It acts as a tonic and also as a mild aperient. It may be varied by 1 grain of pepsin and 1/20 grain of arsenious acid in place of the quinin and it is useful in anemic subjects. Calomel in very small fractional doses, given twice daily for a few days at a time, has often very good effect, and where there is sluggish action of the liver, 1 or 2 grains of blue pill with colocynth and hyoscyamin, or pillula rhei compositus should be given occasionally and followed, if necessary, by a mild saline in the morning, but anything like strong purgation should be avoided. When the distention is chiefly in the bowels, salicylate of bismuth, betanaphthol and salol, in cachet, give at least temporary relief. Lavage is not usually needed in these cases, but if there is much accumulation of mucus it is very helpful by clearing the stomach and thus giving a fair start to other treatment. In acute attacks of flatulence, hot water, with aromatic spirits of ammonia and spirits of chloroform with perhaps a teaspoonful of brandy, often relieves the tension and spasm. Sometimes a drop or two of oil of cajeput in mucilage has a very good effect.

32. **Measles.**—Good nursing is considered as of the greatest importance by Broadbent. Drugs are seldom required, he says, except for complications, which must be treated as they arise. For healthy children properly cared for in good homes an attack of measles for the most part runs a normal course and does not give rise to serious anxiety or call for special treatment. It is the neglect of precautions in the prodromal stages, the ignorance of the parents, the absence of proper care and treatment and the insanitary nature and surroundings so frequently met with in the homes of the poor which are mainly responsible for the high mortality.

37. **Backache.**—In searching for the cause of backache Berkeley says one must consider the vertebral column, the vertebral joints, the sacro-iliac joint, the coccyx, the spinal cord, the spinal membranes, the muscles of the back, the abdominal viscera, the aorta and the pelvic viscera. In addition, backache is found to be associated with the acute specific fevers and with neurosis.

39. **Biliousness.**—In no diseases, says Fenwick, is the employment of calomel and other mercurial preparations more abused, and it is highly probable that the daily recourse to calomel, which is such a common practice, produces extreme irritation of the duodenal mucous membrane. On the other hand, a dose of calomel or mercurial pill once a week followed by a saline the next day, always affords temporary relief to the nausea and giddiness. During an attack of febrile jaundice, due to acute cholangitis, the patient must remain in bed on a bland liquid diet. Tonics of all kinds are veritable poisons and only alkaline mixtures should be prescribed to relieve the symptoms of the secondary gastric and intestinal indigestion. The question of surgical interference should always be considered when clinical evidence points to the existence of gall-stones, chronic pancreatitis or duodenal ulcer.

43. **Morbid Blushing.**—The essential cause of morbid blushing in Campbell's opinion is an inherited morbid temperament. Drugs have little effect on it. The bromids are, on the whole, the most useful. Mild galvanic currents applied to the cervical sympathetic may do some good, but probably rather by suggestion than by their direct effect. The vasomotor centers of the face are readily affected by digestion: witness the liability to redden in the fact ofter taking food. Hence, a further need for paying attention to the digestive system in the subjects of morbid blushing. These patients may gain some confidence by using strong convex glasses. The artificial myopia thus induced by blurring the surroundings tends to diminish self-consciousness. Psychic methods are of undoubted value. Correct the patient's morbid outlook on life and to achieve this end it is necessary to get into close mental touch with him. Above all give him confidence.

Australian Medical Journal, Melbourne

September 2, I, No. 7, pp. 67-76

47 Mentally Defective Children. A. Davidson.
48 Acute Parotitis with Orchitis, Followed by Insanity. W. H. Barker.

September 9, I, No. 8, pp 77-86

49 Case of Cavernous Angioma of Face. G. McCallum.

September 16, I, No. 9, pp. 87-98

50 Treatment of Visceroptosis. A. Houman.
51 Prolapse of Uterus. T. Murphy.

Journal of Tropical Medicine and Hygiene, London

October 2, XIV, No. 19, pp. 285-298

52 Water-Supply of Towns in Tropics, Chiefly from Bacterio- [illegible] s Illustrated by Water-Supply of

Annales des Maladies des Org. Génito-urinaires, Paris

September 1, XXIX, No. 17, pp. 1537-1632

53 *Syphilis of the Bladder and Upper Urinary Passages. (Syphilis de la vessie et des voies urinaires supérieures.) N. A. Mikhailoff.
54 Primary Tuberculosis of the Bladder. (De la cystite tuberculeuse primitive.) G. Li Virghe.

53. **Syphilis of the Bladder.**—Mikhailoff's patient was a woman of 39, the wife of a physician, who applied for relief from a sensation of weight in the kidney region and periodical hematuria which had been observed for five years. The kidney and other organs were apparently normal and she had borne a healthy child thirteen years before. The cystoscope revealed hyperemia in parts of the bladder, and around both ureter mouths there were small papules like those of impetigo; groups of the papules resembled roseola on the skin. The Wassermann test was applied twice, the first time with negative and then with positive results; under a course of mercurial pills and potassium iodid conditions were rapidly restored to normal.

Annales de Médecine et Chirurgie Infantiles, Paris

September 15, XV, No. 18, pp. 561-592

55 *Tuberculosis of the Testicles in Children. (Tuberculose testiculaire chez l'enfant.) P. Vignard and L. Thévenot.
56 Invagination of the Intestine. (Invagination intestinale; désinvagination. Guérison.) H. Triboulet and M. Savariaud.
57 Three Cases of Tuberculous Rheumatism. S. Veras.
58 Favorable Influence of Mountain Climate on Eczema in Infants. (Influence favorable de la cure d'altitude sur l'eczéma des nourrissons.) A. B. Marfan.

55. **Tuberculosis of the Testicles in Children.**—In one of the three cases reported, an infant of 14 months died six months after the first symptoms of tuberculous disease of the left testicle. Another child of 11 months died a week after removal of the tuberculous testicle. The tuberculosis in this case was primary. The third child was over 12 years old and the testicle had been giving trouble for a month and a half before the epididymectomy which put an end clinically to the local trouble. A review of the literature confirms this same predominance of infants among such patients. Of Jullien's seventeen, all but twelve were under the age of 2. The onset may be sudden and acute, the symptoms suggesting acute gonorrheal orchitis, but these subside in a few days leaving suppuration which soon forces its way outward. In other cases the onset is slow and indolent and the trouble is unsuspected until revealed by chance or an abscess ruptures.

Archives Générales de Chirurgie, Paris

August, V, No. 8, pp. 841-960

59 *Neurotomy for Obliterating Endarteritis. (Névrotomie pour endartérite oblitérante.) Marquis.
60 Solitary Cysts in the Bones and Fibrous Ostitis. (Kystes solitaires des os et ostéite fibreuse.) P. Mauclaire and Burnier.

59. **Neurotomy for Endarteritis.**—Marquis reports two cases in which he successfully severed the nerves and put an end to the intense pain accompanying gangrene. In the first case the lesion was in the leg and the neurotomy is, he says, the sixth of the kind on record on the leg, while his other case is the first on record in which the operation was done for gangrene on the hand. He has been able to find in the literature only nineteen cases of gangrene on the hand for which neither syphilis nor diabetes was responsible. Conditions in the arm are so complicated by the anastomoses between nerves that a very complex operation would be necessary to ensure a complete cure. In his case the gangrene continued to spread, thus involving new nerves, with recurrence of pain after two weeks of freedom from it, and the patient died before the month was out. Marquis outlines the technic necessary in such cases to prevent recurrence of the pain.

Archives des Maladies de l'App. Digestif, Paris

August, V, No. 8, pp. 409-468

61 *Swallowing of Air in Connection with Acute Dilatation of the Stomach. (La distention aigue de l'estomac avec occlusion duodénale. Le rôle de l'aérophagie dans sa pathogénie.) A. Mathieu.
62 Absorption by the Large Intestine. (Sur l'absorption par le gros intestin.) G. Dienn.
63 Polycythemia with Predominating Dyspeptic Symptoms. (Cas de polycythémie rouge—maladie de Vaquez—avec symptomes dyspeptiques prédominants.) Wasserthal.

61. **Acute Dilatation of the Stomach with Duodenal Occlusion.**—Mathieu remarks that the discovery of the causes and remedy for this condition, which used to prove fatal in 75 per cent. of those affected, is one of the greatest triumphs of modern medicine. The main feature of the trouble is the immense distention of the stomach and upper part of the duodenum with its attendant symptoms and complications. The dilated portion stops abruptly where the mesenteric artery crosses and compresses the duodenum, and Mathieu shows in diagrams how any excessive distention of the stomach pulls down on the mesentery below the duodenum, thus tightening the pressure on the duodenum and starting the dangerous vicious circle. But, Mathieu queries, what starts the acute dilatation of the stomach, especially after operations? The syndrome has been observed in three cases of eclampsia and in cases in which exclusively medical measures had been applied, without any anesthetic. Consequently there must be some other causal factor in the syndrome besides the anesthetic, to which it is being universally ascribed. This factor, he asserts, is the swallowing of air; Lardennois has reported eight cases in which this fact was established beyond question. In one case he noticed that the patient after appendectomy, being tormented by thirst and dryness of the throat was constantly swallowing saliva and the air swallowed with it was progressively distending the stomach and causing great uneasiness. The condition was evidently the first phase of the dire "arteriomesenteric occlusion of the duodenum." When he explained to the patient the danger to which she was exposing herself, she ceased this insistent swallowing and conditions soon righted themselves, as also in his seven other cases of the kind. Mathieu was called once in consultation in a similar case of commencing dilatation of the stomach, and he introduced a cork between the patient's teeth whenever she began to retch, regurgitate or hiccough, thus preventing swallowing of air by keeping the mouth open. Improvement of the threatening symptoms was soon evident and by the second day all trouble from this source was at an end. The patient said afterward that the gag, the lavage of the stomach and the saline infusion had all helped in the cure, but above all the removal of the basin which had seemed to invite her to retch and try to vomit. The aerophagia, Mathieu affirms, is thus the primal factor in all these surgical and medical cases—the trouble having been observed even during convalescence from typhoid fever. There is no doubt a predisposition on the part of the stomach, some toxic or other cause weakening the stomach walls so that they yield more readily to the strain from the air swallowed in excess by the restless, nervous patients. The pressure from within may even close the cardiac orifice so that it may be impossible to introduce the stomach sound. Only in such an event need operative measures be considered, and they should be restricted to a minute gastrostomy to permit escape of the gases. In the eight cases on record in which a laparotomy was done and the stomach incised, the patients all died.

Archives de Médecine des Enfants, Paris

September, XIV, No. 9, pp. 641-720

64 *Functioning of the Kidney in the Course of Nephritis in Children. (Les fonctions rénales au cours des néphrites de l'enfance.) P. Nobécourt and P. Merklen.
65 Day Nurseries in Russia. (Les crèches en Russie.) W. Chenguelidze.
66 Diphtheria Bacillus-Carriers. (Diphtérie et porteurs de germes.) J. Michel.

64. **Nephritis in Children.**—Nobécourt and Merklen report research on acute nephritis in children, especially the simple albuminuric form, of which they report three typical examples, three of the form with retention of chlorids, and one with retention of nitrogen, as also a case combining these forms. They also analyze ten other cases of these various

types in a chronic form. Study of the elimination of albumin, chlorids and nitrogen allows the course of the kidney affection to be traced and explains the transient character of many cases of acute nephritis with great tendency to edema, and it also explains the tolerance of the children to certain forms of chronic nephritis. There may be phases of retention of chlorids in chronic nephritis, each simulating an acute disease. This intermittence is one of the features of nephritis in children. Nobécourt and Merklen expatiate on the advantages of a milk diet even when there is no retention of salt and urea; they found that the albuminuria was milder and briefer during scarlet fever when the children were restricted to milk for a time. If the albuminuric nephritis enters a chronic phase, a milk-vegetable diet is necessary, with yolks of eggs and very little meat, moderately salted. With retention of salt in acute nephritis, the children should be restricted to water and little of that for the first few days. The edema is generally rapidly reabsorbed when this is done. Even milk contains enough salt to prolong and intensify the edema during this phase. Salt should not be allowed until certain that the kidneys are able to eliminate it again. These dietetic measures may be supplemented by diuretics, such as lactose and theobromin or digitalis if the heart action is weak. In nephritis with retention of urea, they restrict the children to lactosed water, and avoid all albuminous substances until the permeability of the kidney for urea is restored. While milk is the main reliance in acute nephritis, it is not nourishing enough in the subacute and chronic cases, and it should be supplemented by unsalted food or food poor in nitrogen, according as the tests of kidney functioning point the way.

Lyon Chirurgical, Lyons

October, VI, No. 4, pp. 377-492

67 The Pyloric Vein. (Anatomie de la veine infra-pylorique.) A. Latarjet.
68 *Stenosis of the Pylorus of Tuberculous Origin. (Tumeur inflammatoire sténosante du pylore d'origine tuberculeuse. Rapports de l'inflammation avec l'hypertrophie et les tumeurs du tissu musculaire lisse.) J. Chalier and L. Nové-Josserand.
69 *Exclusion of the Duodenum and of the Pylorus. R. Leriche and E. Bressot.

68. Stenosis of the Pylorus of Tuberculous Origin.—Necropsy of a patient succumbing to chronic pulmonary tuberculosis revealed muscular thickening of the pylorus without any specific tuberculous changes, yet inoculation of guinea-pigs with scraps of tissue from this neoproduction resulted in the death of the animals from tuberculosis. This is the first case of inflammatory specific tuberculosis of the pylorus with positive inoculation of guinea-pigs. In adults fibrous or sclerous stenosis of the pylorus has only rarely been examined for tuberculosis; if this were done oftener, lesions suggesting inflammatory tuberculosis would certainly be found in many instances. The structure of the thickening in this case resembled so much that of myoma of smooth muscle tissue that it suggests the possibility that inflammation (tuberculous in this case) may be at the basis of true tumors (a benign leiomyoma in this case). The structure of the stenosis in this case resembled so closely the lesions encountered in the stenosis of the pylorus from muscular hypertrophy in the new-born, that it suggests a possible similar origin in the latter cases.

69. Exclusion of the Duodenum.—Leriche and Bressot describe the history of the operations excluding the pylorus and duodenum and the preferable technic, and then review fifty-nine cases, including two from their own experience; they also know of fifteen other cases without details. By exclusion of the duodenum they mean cutting the pylorus across and closing each stump with a suture, reestablishing the continuity of the digestive tract by a gastro-enterostomy. For exclusion of the pylorus, the operation has to be done on the stomach tissue proper and is thus more difficult than the simple severing of the duodenum at the pylorus, as the raw surfaces are more extensive. All the patients derived great benefit from the operation and no death is recorded. Jonnesco has performed the operation twenty-nine times without a fatality. The outcome is so good after exclusion of the duodenum that they insist that this should be the routine treatment for gastric or duodenal ulcer. They denounce this operation in cases of gastric cancer—this requires more radical measures but with gastric ulcer exclusion of the duodenum should be given the preference over pylorectomy (on account of the difficulty of the technic) and over gastro-enterostomy (on account of the inadequacy of the effect from this alone). The details of forty-five cases are given in full.

Lyon Médical, Lyons

September 3, CXVII, No. 36, pp. 469-516

70 Variability of the Blood-Vessels Supplying the Kidney. (Recherches sur les organes du pédicule rénal.) A. Chalier and A. Jalifier.

September 10, No. 37, pp. 517-564

71 Fatal Pneumothorax Complicating Thoracocentesis. Bouchut and Bouget.

Revue de Gynécologie, Paris

July, XVII, No. 1, pp. 1-96

72 Outcome of Ninety-Four Conservative Operations on Ovaries and Fallopian Tubes. (Des résultats des opérations conservatrices pratiquées sur les trompes et les ovaires.) W. L. Jacobson.
73 Rupture of Vessels with Abdominal Contusions. (Des ruptures vasculaires dans les contusions abdominales. II.) Duculng and Florence. Concluded in No. 3.

August, No. 2, pp. 97-192

74 *Formation of Vagina by Autoplastic Technic. (De la création d'une cavité vaginale par la méthode autoplastique dans les cas d'absence congénitale.) S. Pozzi.
75 Anatomy of the Kidney. (Recherches sur le hile, le sinus et le pédicule du rein.) A. Chalier and A. Jalifier.

74. Autoplastic Formation of Vagina.—Pozzi describes with numerous illustrations a successful operation of the kind on a young woman and the anatomic outcome six months later.

Revue de Médecine, Paris

September, XXXI, No 9, pp. 673-760

76 *The Toxic Origin of Neurasthenia. (De la neurasthénie grippale.) H. Bernheim.
77 Primary Bilateral Cancer in the Adrenals of Young Women. (Cancer primitif et bilatéral des capsules surrénales avec metastases viscerales et craniennes.) F. Mouisset and J. Chalier.
78 Treatment of Tuberculosis in Antiquity. (La phtisiothérapie dans l'antiquité. Orientaux, Grecs, Arabes.) M. Piéry and A. Rémy.
79 *Connection Between Hysteria, Renal Insufficiency and Retention of Salt. (Hystérie, insuffisance rénale, retention chlorurée.) J. Lépine.

76. Grippal Neurasthenia.—Bernheim reports twenty-three cases to illustrate the various forms of neurasthenia which influenza is liable to induce, in addition to its action on various organs. He is inclined to regard ordinary neurasthenia as an auto-intoxication, often constitutional, continuous or periodically recurring, and influenza may be the means of arousing this tendency to develop into actual neurasthenia. The symptoms of neurasthenia are refractory to suggestion, and they may persist for weeks or months or pass into a chronic stage with remissions and exacerbations, but the spinal and cerebral symptoms of neurasthenia only exceptionally merge into actual organic disease; persisting neuritis, tabes, myelitis or dementia are extremely rare as a consequence of neurasthenia or influenza.

79. Hysteria and Kidney Insufficiency.—Lépine's patient was an intelligent man of 51 suffering from traumatic hysteria which finally subsided. Study of this case and of the experiences of others seems to indicate that every hysteria has a toxic element, and that this can be sought on the part of the kidneys. This view explains the aggravation of conditions liable when there is retention of salt. This patient's serum contained twice the normal proportion of salt, and he finally succumbed to uremia.

Semaine Médicale, Paris

October 11, XXXI, No. 41, pp. 481-492

80 The Indirect, Psychic or Conditional Reflexes. (Les réflexes conditionnels en physiologie et en pathologie.) F. Rose.

Berliner klinische Wochenschrift

October 9, XLVIII, No. 41, pp. 1829-1872

81 *Anemia in Infants. (Anämien des frühsten Kindesalter.) H. Finkelstein.
82 *Arteriovenous Anastomosis for Angiosclerotic Gangrene. (Behandlung der angioskleratischen Gangrän der unteren Extremität mittels arteriovenöser Anastomose.) J. M. Glasstein.
83 Determination of Antitrypsin in the Blood-Serum. (Prognostische und diagnostische Bedeutung der Antitrypsinbestimmung im Blutserum.) G. Katzenbogen.

84 *The Colloidal Nitrogen in the Urine as Sign of Cancer (Bedeutung einiger urologischer Befunde für die Diagnose der malignen Epithelialtumoren.) L. Caforio.
85 Forensic Aspect of History of Venereal Disease in Candidates for Matrimony. (Besteht nach der deutschen Rechtssprechung zwischen Heiratskandidaten eine Pflicht zur Offenbarung überstandener Geschlechtskrankheiten?) J Heller. Commenced in No. 40.

81. **Anemia in Infants.**—Finkelstein remarks that the blood will often be found normal when the pallor of the infants suggests anemia. On the other hand, some infants are born with less than the normal reserve of iron to carry them along through the nursing period, as milk contains very little iron. This chlorotic type of anemia in nurslings has been described mostly by French writers. In Germany infants are given mixed foods earlier, and in consequence they get iron in time to prevent development of the anemia. The prematurely born and twins, and infants of frail, anemic and neuropathic mothers, do not have this normal reserve of iron. In such cases the lack of iron usually can be compensated by giving the child iron or mixed food, but in a certain proportion of cases there seems to be a constitutional weakness of the blood-producing apparatus. In a case of this kind in a male infant, both the mother and grandmother had a constitutional tendency to anemia. Hygienic-dietetic measures are the reliance in treatment, adding a little meat juice, cheese or half an egg, or fruit juice, vegetable soup, etc., to the milk. This generally answers the purpose, but if not a little saccharated ferrous carbonate, twice a day, generally is sufficient in the primary forms. With secondary anemia, removal of the cause is the first task, and blood tonics do more harm than good until this is done. His experience with pseudoleukemic anemia in infants seems to demonstrate that it is the extreme type of secondary anemia from toxic or infectious causes in children with a congenital debility of the blood-producing organs. If it is possible to keep the infant in pure air and free from complications with proper care and diet, the prospect of a cure of the pseudoleukemic anemia is good. Only in the uncomplicated cases and those in which iron has been given, does the anemia seem to respond favorably to arsenic.

82. **Arteriovenous Anastomosis for Gangrene.**—Glasstein reports a case of angiosclerotic gangrene of the left leg requiring amputation. Two years later the right leg became extremely painful. Persistence of the pains for eight months with chilliness of this leg, the livid tint and extreme tenderness, suggested impending gangrene, and when two cyanotic patches developed at the base of the great toe and no pulse could be detected in the popliteal, posterior tibial and dorsalis pedis arteries, the patient, a man of 38, consented to arteriovenous anastomosis at the root of the thigh. The Carrel technic was applied and in less than a month all pains had subsided and the foot was nearly of normal tint. When the patient was last seen, five months after the operation, complete function was restored and the leg had a normal aspect. He had been accustomed to smoke fifty or sixty cigarettes a day and was somewhat addicted to alcohol.

84. **Colloidal Nitrogen in the Urine in Cancer.**—Caforio investigated the urine of twenty-eight cancer patients and of twenty-two others to test the constancy of the increase in colloidal nitrogen which Salkowski thinks is specific for cancer. Caforio found the sign positive in pulmonary tuberculosis and liver disease as well as in cancer so that it is not pathognomonic for cancer, but negative findings are useful to exclude malignant disease. He never found the range above normal in the healthy or those free from organic disturbances, while it ran up to 7 per cent. with cancer even in the incipient stage, and subsided to normal range after the cancer had been excised.

Deutsche medizinische Wochenschrift, Berlin

October 5, XXXVII, No. 40, pp. 1825-1872

86 *Tuberculin by the Mouth. (Stomachale Anwendung von [illegible] and W. Heinemann.
87 * [illegible] System by Muscular [illegible] d seine Erschöpfung [illegible] Carl.
88 * [illegible] Tölken.
89 [illegible] se.
90 *Inflamm [illegible] Ueber entzünd- liche [illegible]

86. **Inefficacy of Tuberculin by the Mouth.**—Möllers and Heinemann report extensive experimental research confirming the uncertain action of tuberculin administered internally, as the pepsin and trypsin in the digestive tract have a destructive influence on the specific elements of the tuberculin. The method is thus totally unfit for diagnostic purposes and even for treatment on account of the unreliability of the dosage, as it is impossible to calculate the amount that will eventually be absorbed.

87. **Exhaustion of "Chromaffine System" by Muscular Exertion.**—Carl says that the substance taking the chrome stain in the medulla of the adrenals, the paraganglia and the carotid gland—the apparatus called the "chromaffine system"—disappears in the frog under the muscular exhaustion from protracted reflex convulsions in strychnin poisoning.

88. **Appendicitis and Colitis.**—Tölken has been examining for evidence of colitis in all cases of appendicitis in his charge, and has found colitis more common than he expected. Circumscribed colitis and catarrhal conditions elsewhere in the large intestine are liable to prevail alone or as complications of appendicitis. The physiologic stagnation of the feces in the cecum naturally predisposes to inflammation in this region. Palpation shows a more extensive resistance than with appendicitis alone, and the tenderness is not so limited or so extreme as in the latter affection while the temperature, pulse and leukocyte count are nearer to normal range. In cases colitis is diagnosed, castor oil may show that operative treatment is not required.

90. **Inflammatory Tumors in Abdominal Wall.**—Heymann refers to a tumefaction years after a herniotomy which healed by primary intention. The slow development of the lesion suggests a malignant tumor, but examination always reveals some scrap of suture material as the primal cause. In a case reported in detail the tumor was evidently connected with the urachus and excision confirmed this assumption and the slight virulence of the germs causing the tumor-like infiltration. He advocates extensive excision.

91. **Heat Stroke as Factor in Summer Infantile Mortality.**—Rietschel argues that hitherto attention has been devoted too exclusively to the infant's food while the infant itself has been disregarded in our study of infantile mortality. He has found the mortality highest in the cities and in the hottest parts and in the hottest houses and rooms, and he has become convinced that the heat is an extremely important factor. It debilitates the children so that they feel any slight digestive disturbance far more severely and succumb more readily. The campaign against infant mortality is thus seen to be essentially a housing problem. He says that until the population began to accumulate in the cities, an excessive summer mortality among infants was known in Germany only from the reports in American literature, so that cholera infantum was long called the "American disease." Not until about 1870 did it attract attention in Germany, coincident with the industrial development and the migration to the cities. Among the arguments he presents for this view are that sterilizing the milk has not materially reduced infantile mortality, while the mortality fluctuates with the temperature, and especially with the temperature in the room where the child lives—this effect of heat may be evident even in winter, in overheated rooms. He adds that no one has been able to discover any actually toxic bacteria in milk, and if such were present they would proliferate just as well at 24 C. as at 30 C. He regards the morbidity as an actual heat stroke in many cases, or the heat may act as a chronic debilitating influence. Keep the milk cool, certainly, he says, but keep the baby cool first and foremost.

92. **The Thymus.**—Basch and Rohn use a special pleximeter with very narrow hammer for percussion with auscultation,

91 *Summer Infant Mortality a Housing Problem. (Die Sommersterblichkeit der Säuglinge, ein Wohnungsproblem.) J. Rietschel.
92 *Examination of the Thymus. (Zum physikalischen Nachweise der Thymus.) K. Basch and A. Rohn.
93 Roentoscopic Diagnosis of Foreign Bodies in the Eye. (Doppelte Perforation des Auges und Nachweis durch Röntgenstrahlen.) J. Jung.

and state that it is thus possible to determine the outlines of the thymus even in infants, especially when combined with auscultation on friction of the region. In their examination of 140 children they found the normal outline of a rhomboidal shape, extending from the clavicle to the second or third rib, and bounded by the margin of the sternum and parasternal line. They give the area of dulness thus determined as compared with the necropsy findings in a number of cases. The area varies characteristically with the age and state of nourishment and with pathologic conditions in the vicinity.

Deutsche Zeitschrift für Chirurgie, Leipsic

September, CXI, Nos. 4-6, pp. 321-630

94 *Local Anesthesia for Operations in Area of Fifth Nerve. (Lokalanästhesie bei Operationen im Trigeminusgebiet.) H. Braun.

95 Chronic Obstruction of Common Bile Duct; Four Cases. (Hydrops und Empyem der Gallenwege beim chronischen Choledochusverschluss.) F. Brunner.

96 Muscle Hernia. (Muskelhernien.) Heinemann.

97 Idiopathic Extreme Fragility of the Bones in Brother and Sister. (Zur Frage der Osteopsathyrosis idiopathica.) J. Hartmann.

98 Fracture of Cuneiform Bone of the Carpus. (Frakturen des Os triqretrum; spez. die Ulnar-Dorsalflexionsfraktur mit Absprengung des Proc. styl. ulnae.) F. Denecke.

99 Cause of Retrogade Incarceration of the Intestine. (Pathogenese der retrograden Inkarzeration des Darmes.) E. Polya.

100 Trauma of Upper Cervical Vertebræ. (Beitrag zu den Verletzungen im Bereich der beiden ersten Halswirbel.) F. W. Brill.

101 Traumatic Aneurysm of Intestinal Artery After Abdominal Contusion. (Traumatisches Aneurysma einer Darmwandarterie als seltene Folge einer Bauchverletzung durch stumpfe Gewalt. Tötliche Blutung aus dem Aneurysma in der siebenten Woche nach dem Unfall.) H. Lang.

102 Connection Between Gall-Bladder Lymphatics and Pancreas. Beziehungen der Gallenblasenlymphgefässe zum Pankreas.) C. Franke.

103 Curability of Liver Abscesses. (Zur Heilbarkeit multipler cholangitischer Leberabszesse und über kleine solitäre Leberabszesse und ihre Bedeutung in der Chirurgie.) C. Lehmann.

104 Pathology of Kidney Calculus. (Zur Pathologie der Nierensteine.) H. Rosenbach.

105 *Vagotomy in Treatment of Tabetic Gastric Crises. (Ein neues Operationsverfahren bei tabischen Crises gastriques.) A. Exner.

106 Transplantation of Bone for Defect [illegible] Beitrag zur Frage der freien [illegible] Defekten des Unterkiefers.) J. [illegible]

107 Ligation of Innominate Vein. (Unterbindung der Vena anonyma.) W. Kluge.

94. **Technic for Local Anesthesia of the Trigeminus.**—Braun gives illustrated descriptions of ten different operations in the area innervated by the fifth cranial nerve for cancer or other serious lesion, all done under local anesthesia, blocking the main nerve-trunks. He declares that the advantages of local anesthesia are more evident in this than in any other field of surgery. The technic is somewhat similar to that of Schlosser's deep injections of alcohol for relief of trigeminal neuralgia, but it includes further the direct blocking of the nerve-trunks by injecting the anesthetic around it and infiltration of adjacent tissues, preceded by injection of morphin or morphin-scopolamin. One of the illustrations shows the total resection of the upper jaw and evacuation of the orbit for cancer in a man of 63, more than half of the face thus being opened up in a single yawning wound. There was very little bleeding, although the carotid was not ligated. The patient did not have to go to bed afterward and was strolling in the garden the next day. It is startling in one of the illustrations to meet the intelligent pain-free gaze of the patient, a man of 64, who was having a cancer of the base of the tongue, tonsil and fauces and the glands in the left side of the neck removed through the single large opening. Half of the tongue and jaw had just been cut out when the photograph was taken. Resection of the upper jaw, Braun adds, has lost its horrors under local anesthesia, and become an entirely different operation, as at any point elsewhere. With good local anesthesia and the patient quieted by morphin beforehand, the psychic influence of being a witness to the operation does not seem to disturb; its importance has been overestimated, Braun declares. The aim is to render the entire field free from pain without injecting directly into the diseased tissues.

105. **Vagotomy for Tabetic Gastric Crises.**—Exner severed the tenth, eleventh and twelfth dorsal roots to relieve tabetic gastric crises in a man of 47 and the pains were banished permanently, but the vomiting crises continued. This persistence of the vomiting feature of the crises, while the pains were abolished, convinced Exner that the primary trouble in the crises was some affection of the vagus or its centers, the vomiting thus indicating the primary feature of the gastric crises. Assuming this to be the case, treatment should be directed against the primary affection of the vagus or its centers, correction of which would be followed by the spontaneous arrest of the pains. The aim thus would be to sever the vagus on both sides just below the diaphragm, close to the cardia. In order to prevent any eventual spasm of the pylorus he reasoned that the pylorus ought to be kept open by a drain tube. On the basis of these theoretical assumptions he has performed this operation on two patients. In both the vagus was found much degenerated, quite enough to explain the gastric crises, he thinks. The first patient was relieved completely of the gastric crises, but still suffers from preexisting lancinating pains in legs and bladder. The second patient was very restless and pulled out the drain tube and the stomach became dilated, the atony increasing and the patient soon dying from inanition. A subphrenic abscess was found under the left lobe of the liver. Exner concludes from these experiences that it would be preferable to resect the vagus just below the diaphragm, before it ramifies. To avoid complications, a perforated drain should be passed through an opening in the stomach wall into the duodenum. It is probably safe to remove the drain by the end of the third week. He advocates this method of treatment, instead of rhizotomy, as liable to prove equally effectual, while it is far simpler and less dangerous than the Förster technic.

Medizinische Klinik, Berlin

October 8, VII, No. 41, pp. 1565-1604

108 *Efficacy of Phosphorus in Senile and Tardy Osteomalacia. (Ueber Osteomalacia senilis und tarda.) H. Curschmann.

109 Prophylaxis of Puerperal Fever. (Verhütung des Kindbettfiebers.) C. J. Gauss. Commenced in No. 40.

110 Paroxysmal Tachycardia. (Analyse eines Falles von paroxysmaler Tachykardie.) R. Beck.

111 Radium Treatment of Cancer. (Behandlung des Krebses mit Radium als Ergänzung zu der chirurgischen Behandlung bei operabler [illegible] ;smethode bei inoperablen [illegible]

112 *Salt-Poor Diet. [illegible] Ernährung.) J. Leva.

113 Operative Treatment of Exophthalmic Goiter. (Umfrage über die chirurgische Behandlung der Basedowschen Krankheit.) Krecke, Enderlen, Schloffer and A. Cramer.

114 *Therapeutic Application of Negative Differential Pressure of the Lungs. (Anwendung der Luftdruckerniedrigung über den Lungen, eine wertvolle Heilmethode bei Herz-, Lungen- und Gefässerkrankungen.) Pick.

115 Dry Rot in Wood. (Ueber den Hausschwamm.) W. Wangerin.

108. **Tardy and Senile Osteomalacia.**—Curschmann asserts that non-puerperal osteomalacia is far more common than is generally assumed, and that frequently it is not recognized and the patients are treated on the wrong basis for assumed rheumatism, lumbago, sciatica, spondylitis or other spinal affection. The mistaken diagnosis is the more harmful, as treatment based on it is ineffectual, while phosphorus will cure the real trouble, the senile or tardy osteomalacia. During the last few years he has had twelve cases of pronounced osteomalacia in women approaching or just past the menopause. He advocates the term "tardy" osteomalacia for this form, as also for the tardy exacerbation of osteomalacia first developing during a pregnancy. One such case was in a woman of 43, whose osteomalacia developed during and subsided after her various pregnancies, and then recurred in a very severe form, seven years after the last pregnancy. He has encountered six cases of pronounced senile osteomalacia, and four of an abortive form, all but two of his osteomalacia patients being women. This rarity in men is one reason why it is so seldom recognized when it does occur in a man. In an instructive case of the kind a man of 65 had had severe osteomalacia for seven years, but no one had recognized it; the pains radiating to the sacrum and thigh had been diagnosed as sciatica. There were also pains in the chest in coughing, and the legs had grown stiffer and more painful until the man could only get around his room with support. Tentative antisyphilitic treatment gave no relief; neither did courses of treatment at Nauheim, Wiesbaden and elsewhere, to which he was sent by different

physicians in turn, with the diagnosis of gout, muscular rheumatism, chronic lumbago and finally sciatica, the history of treatments including a two-year course with a certain quack. But no measures gave permanent relief until Curschmann discovered the signs of severe osteomalacia, namely, extreme painfulness on pressure over the ribs, sternum or spine; moderate round dorsal kyphosis, the lower ribs resting on the bony framework of the pelvis; a transverse groove in the skin across the epigastrium and contracture of legs, especially of the adductors in standing and walking, the patient taking with great difficulty the shortest of steps, the thighs pressed close together, and stopping exhausted after a minute or two. On reclining the muscles relaxed. The tendon reflexes were normal. Under phosphorus, bed rest and baths the spontaneous pains disappeared entirely in four weeks, and in another month the patient was able to walk normally, without pain, and return to business. The lack of recognition of osteomalacia in this case had given the patient seven years of martyrdom. All these patients were well-to-do, and the osteomalacia developed very insidiously and slowly in all but one case in which it reached its acme in two months. The chest, spine and thighs are mainly affected in this senile and tardy form, the pelvis least or not at all. There was no tendency to paralysis in any of his cases, but in five of his six cases of senile osteomalacia, numbness and paresthesia in hands and feet suggested neuritis at first. The angiospastic symptoms subsided as the osteomalacia was cured. In two cases of the tardy form there were trophic disturbances in face, fingers or nails, but no trace of any complicating organic disease, mental disturbances or hysteria in any instance. The height was reduced a little, 5 cm. in one case. The efficacy of phosphorus in cod-liver oil in these cases confirms the diagnosis. He gives from five to three teaspoonfuls of a 0.01 per cent. solution at first, gradually dropping to one or two teaspoonfuls, but keeping this up for months; in two cases for nearly a year. The phosphorus has to be given continuously, like iodid in arteriosclerosis or thyroid in myxedema. The benefit from phosphorus-cod-liver oil confirms the assumption that rachitis and osteomalacia are essentially the same affection. Curschmann adds in conclusion that in the tardy and senile form of osteomalacia, castration without a preceding energetic and long-continued course of phosphorus treatment is actual malpractice.

112. **Salt-Poor Diet.**—Leva calls attention to a number of seasonings which can be used in place of salt in various dishes, such as mint thyme, capers, onions, laurel leaves, celery and cress, lemon, vinegar, mustard and sugar, disguising the lack of salt. Caper sauce, tomato sauce, madeira sauce, etc., mayonnaise and the copious use of cream, enable one to dispense with salt to an unanticipated extent. It is not a difficult matter to have the baker keep out enough unsalted dough to supply a function unsalted bread. It can be made more palatable by having this loaf shortened with unsalted butter; in some countries, especially Italy, a large part of the population always use unsalted bread. Leva has been experimenting with sodium bromid as a substitute for salt, saying that the use of 1 or 2 gm. a day for a time would do no harm in the majority of cases, while it seasons bread, eggs, soups and vegetables in a fairly satisfactory manner. It does not taste like salt, but it enables the salt to be dispensed with better. His experiments have demonstrated that sodium bromid promotes the elimination of sodium chlorid, and thus indirectly of dropsical fluid, and it can usefully supplement the dietetic measures.

114. **Negative Differential Pressure in Treatment of Heart, Lung and Vascular Disease.**—Pick has used Bruns' apparatus for negative differential pressure in a number of cases, and has found that it arrests asthma, and aids in the cure of emphysema of the lungs and bronchial catarrh, while it regulates the circulation by promoting the reflux of blood from the periphery to the left heart by the aspirating action of the negative pressure. Not only the heart but the entire vascular system benefits by this. The method is thus peculiarly useful, he says, in arteriosclerosis. Respiration under the negative pressure is like that at high altitudes; the result is an expanding of the chest and strengthening of the breathing apparatus, stimulating the blood-producing organs to better functioning.

Monatsschrift für Kinderheilkunde, Leipsic

IX, No. 12, pp. 633-672

116 Chemical Composition of Human Milk. (Chemische Zusammensetzung der Frauenmilch auf Grund neuer Analysen.) E. Schloss.
117 Experimental Albuminuria and Nephritis Induced by Mechanical Factors. (Weitere Mitteilungen über mechanische Erzeugung von Albuminurie und Nephritis bei Tieren.) R. Fischl.
118 Clinical Importance of Albuminoids in Infants' Urine. (Zur klinischen Bedeutung des durch Essigsäure fällbaren Eiweisskörpers im Urin der Säuglinge.) Giffhorn.
119 Lipanin Not an Effectual Substitute for Cod Liver Oil in Rachitis. (Lipanin als Ersatzmittel des Lebertrans bei Rachitis. Sein Einfluss auf den Stoffwechsel.) J. A. Schabad and R. F. Sorochowitsch.

Münchener medizinische Wochenschrift

October 3, LVIII, No. 40, pp. 2097-2144

120 *Warming of Ether and Chloroform Vapor for General Anesthesia. (Vorwärmung von Aether- und Chloroformdämpfen für die Narkose.) A. Läwen.
121 *Early Stages of Deforming Spondylitis. (Ueber klinische Erscheinungen bei den Frühstadien der Spondylitis deformans.) E. Plate.
122 *Nail Extension for Fracture. (Ueber Erfahrungen mit der Nagelextension nach Steinmann.) E. Koerber.
123 Drug Eruption After Salvarsan. (Ueber medikamentöse Spätexantheme nach intravenösen Salvarsaninjektionen.) R. Frühwald.
124 Modification of Course of Syphilis Under Salvarsan. (Abweichungen im Verlaufe der Syphilis nach Anwendung von Arsenobenzol.) J. Desneux and B. Dujardin.
125 Severe Jaundice After Hectin Treatment of Syphilis. (Fall von schweren syphilitischen Ikterus während der Behandlung mit Hektin. Heilung durch Salvarsan.) Dubot.
126 Gastro-Enteropexy for Volvulus of Posterior Retrocolic Gastro-Enterostomy. R. Werner.
127 *Operative Treatment of Tuberculous Cavity in the Lung by Total Mobilization of Chest Wall: Thoracoplastic Pleuropneumolysis. (Statistisches und Prinzipielles zur Frage der Rippenresektion ausgedehnten oder beschränkten Umfanges bei kavernöser Lungenphthise und bei Hämoptoe.) P. L. Friedrich.
128 Treatment of [illegible] in General, Especially in Abortion. [illegible] und ihre Behandlung.) H. Schottmüller. Commenced in No. 39.

120. **Warming the Anesthetic Fumes for Major Operations.**—Läwen states that complications on the part of the lungs follow in about 5 per cent. of all the laparotomies at the Leipsic clinic, even those done under local anesthesia. He is convinced that the essential factor is the impossibility of adequate expectoration after the operation; at the same time chilling probably contributes, and he has devised a contrivance to add to the apparatus for mixed oxygen and ether or chloroform inhalation anesthesia, which warms the fumes. In twenty-seven operations performed with this technic the results seemed to be excellent, and he thinks that possibly this method may prove useful in protracted laparotomies or operations leaving extensive raw surfaces, such as amputation of the breast, or when the patients are in shock or have lost an excessive amount of blood.

121. **The Early Stages of Deforming Spondylitis.**—Plate calls attention to the necessity for early diagnosis of this affection in order to prevent aggravation later. By treatment as for inflamed flat-foot, radiotherapy with arc-light baths, supplemented by strong irritation to the skin (by grandination), and with a supporting corset in the chronic forms, it is possible to cure or relieve to a great extent. The benefit derived confirms his assumption of the trouble as loss of the elasticity of the intervertebral disks; they are crushed down and the upper edges of the bodies of the vertebræ become jagged. These changes are readily seen with the Roentgen rays and it is thus possible to differentiate the condition when the patients complain of pains in the back when they walk, stand or sit, which vanish at once when they recline. No other spinal affection has this characteristic of the disappearance of the pain on lying down. In walking the patients try to avoid shaking the spine; they take short cautious steps, not stretching the knee, and striving to spare the spine by grasping the thigh with the hand. No tendency to curvature was noticed in any case, and although pressure and tapping the spine cause pain or aggravate existing pain, yet it is never so intense as with tuberculous or other severe spinal lesions. His patients were all men forced to bear heavy loads or push heavily laden small carts, and a number were under 50 years old. Roentoscopy is especially instructive when the spine is examined sagittally.

122. Nail Extension for Fractures.—Koerber has applied Steinmann's nail extension in seventy cases of fracture, and considers the method useful in cases in which there are obstacles to the Bardenheuer adhesive-plaster extension technic, or the ordinary methods of treatment prove inadequate, but says that it is not a standard method for the ordinary run of cases, and it is not ripe for introduction into general practice.

127. Operative Treatment of Tuberculous Lungs by Total Mobilization of Chest Wall: Thoracoplastic Pleuro-Pneumolysis.—Friedrich's work in this line is familiar to American readers (The Journal, 1909, LIII, 1970). He here reviews his experiences to date and emphasizes the fact that fourteen of his patients are in fairly good health to date who were saved by his operation during the last four years when the severe general symptoms accompanying the progressing tuberculous cavity in the lung foretold a speedy demise. The fine results obtained from immobilizing the lung by induced pneumothorax encouraged him to operate in this way in cases in which there were obstacles to the therapeutic pneumothorax. Quincke was the pioneer in this line in 1888, and the Marburg clinic has pressed forward in this path, having now a record of twenty-eight operations, resecting more or less of the ribs over the cavity. Experience has shown that recent metastasis in other organs, larynx, intestines or bones, contra-indicates the operation. Six of the total eight cases with a fatal outcome were of this class, which is now excluded from this method of treatment. Patients under 15 and older than 40 are likewise excluded, but persistent fever and swarms of bacilli do not necessarily contra-indicate the operation. Some of the most successful cases were of this class. The total mortality of twenty-six per cent. in these twenty-six cases of progressing tuberculous cavity-production certainly is far from disheartening. The main point is to be certain that the chest wall and the pleura have become hard and stiff under the influence of the irritation. If they give way under the pressure after the ribs are resected, and sink down on the sound lung, its functioning is impaired and the operations fail to benefit. Normal functioning of the other lung is indispensable to success, but it is not necessary always for it to be entirely sound. The operation is less serious, while the outcome seems equally good, when the ribs are resected through an incision in the axilla, a longitudinal incision through the serratus, folding in the lips of the soft parts like a cushion over the stumps of the ribs, pushing back the pleura and lung and suturing the skin to reduce the girth. He shows in some diagrams how this technic compresses the lung between the spine and the sternum. This technic has several advantages but it is harder to detach the first rib, and the brachial plexus may be injured while functioning of the serratus may be impaired more than with other technics. A number of typical cases are described in detail, with diagrams to illustrate the special conditions. In one case all three right lobes were infiltrated, with multiple cavities; the operation was aimed only at the two upper lobes, the third lobe being left until one year later when the patient, a physician of 25, had recuperated wonderfully. In a number of cases, recurring severe hemoptysis was the stimulus to operation, which proved thus a direct life-saving measure in some instances. The cavities shriveled up so quickly that no need was felt for direct local cauterization, but the possibility of this should not be forgotten with this thoracoplastic pleuropneumolysis.

Virchows Archiv, Berlin

September, CCV, No. 3, pp. 321-480

129 Kidney Stones in Infants. (Nephrolithiasis im Säuglingsalter.) H. Joseph.
130 [illegible] in the Liver. (Physiologische und [illegible] generation in der Leber.) M. Askanazy.
131 [illegible] Heart. (Anatomische und experimen- [illegible] über die Fragmentation des Herzens.) M. Lisaucr.
132 Anatomic Changes in Heart Under Influence of Nicotin. [illegible] des Herzens infolge von [illegible] C. v. Otto.
133 C[illegible] des chronischen Alkoholismus.) Fahr.
134 Plasma Cells in Human Lacrimal Glands. (Vorkommen und Herkunft von Plasmazellen in der menschlichen Tränendrüse.) B. Hannes.
135 Metastasis of Cancer in Central Nervous System. (Metastasierung maligner Tumoren ins Zentralnervensystem.) J. Heinemann.
136 Fibromyomas of the Gastro-Intestinal Tract. (Zur Lehre d. Fibromyome des Verdauungskanals. Myome des Oesophagus und der Kardia.) N. N. Anitschkow.
137 True Secondary Diphtheria of the Skin. (Zur Kenntnis der Hautdiphtherie.) A. Reinhardt.
138 Participation of Glomeruli in the Varying Thickness of Kidney Cortex. (Beteiligung der Glomeruli an der wechselnden Breite der Nierenrinde.) R. Steinebach.
139 Calcification of the Dura. (Weiterer Beitrag zur Pachymeninxverkalkung bei Usura cranii.) E. Allenbach.
140 Gouty Tophi in Nubian Mummy. (Harnsäurenachweis in gichtischen, der altchristlichen Zeit entstammenden Tophis.) W. Ebstein.

Wiener klinische Wochenschrift, Vienna

October 5, XXIV, No. 40, pp. 1383-1418

141 Importance of Anaphylatoxin for Infectious Disease. (Bedeutung des Anaphylatoxins für die Infektionskrankheit.) E. Weil.
142 [illegible] Deep Stenosis in the Small Intestine. [illegible] tieferen Dünndarmstenose mittels des [illegible] G. Schwarz.
143 Syphilids Under Influence of Salvarsan. (Ueber einige durch Salvarsanbehandlung bedingte Eigentümlichkeiten kutaner Syphilis.) M. Oppenheim.
144 Alimentary Galactosuria of Nervous Origin. (Ueber alimentäre Galaktosurie nervösen Ursprungs.) H. Pollitzer.
145 The Health in Youth of the Blind. (Gesundheitsverhältnisse der Jugendblinden.) P. Silberstern.
146 The Kidney Disease in Familial Amaurosis. (Nierenaffektion familiär Amaurotischer.) P. Silberstern.

Zentralblatt für Chirurgie, Leipsic

October 7, XXXVIII, No. 40, pp. 1337-1368

147 *Blocking of the Brachial Plexus. (Die Anästhesierung des Plexus brachialis.) D. Kulenkampff.

147. Regional Anesthesia by Blocking the Brachial Plexus.—Kulenkampff has applied the technic of which he gives an illustrated description in twenty-five cases. The result was complete anesthesia of the entire arm in fifteen and anesthesia of enough of the arm for the desired operation in five others, while the other five cases were operated on during the tentative experiments with the technic. The best point of access to the plexus is just above where it is crossed by the omohyoid muscle and the transversalis colli artery. The patient seated, the subclavian artery is located by palpation or even by the eye, the head held in the proper position. The subclavian can generally be located at the point where if the external jugular vein were extended it would cut across the clavicle. The needle is inserted at this point, close to the upper margin of the clavicle, seeking to touch with the needle one of the arm nerves. On contact with the nerve there is tingling in the arm and motor phenomena but no pain. If the needle has been pointed correctly these paresthesias develop as soon as the skin and deep fascia have been pierced. The point of the needle must be directed toward the tip of the second or third thoracic spinous process. If the needle butts against the first rib without reaching the plexus, it has been introduced too far toward the side; the sign that the nerve has been reached is the appearance of the paresthesias. The anesthesia induced by the nerve-blocking injections lasts from ninety minutes to two or three hours. The only pain during the entire procedure and operation is from the prick to make the little infiltration blister through which the needle is introduced into the depths.

Zentralblatt für Gynäkologie, Leipsic

October 7, XXXV, No. 40, pp. 1393-1424

148 Posterior Cervical Cesarean Section. (Ueber Sectio caesarea cervicalis posterior.) O. Polano.
149 Treatment of Genital Prolapse. (Zur Prolapsbehandlung.) T. R. Jaschke.

Gazzetta degli Ospedali e delle Cliniche, Milan

September 28, XXXII, No. 117, pp. 1235-1242

150 *Galvanic Electrotherapy in Amenorrhea. O. Rigamonti.

October 1, No. 118, pp. 1243-1258

151 Physiology of Secretion of Urine. I. (La secrezione dell'urina.) F. Bottazzi.
152 Diagnostic Importance of Variation in Temperature in the Axillæ. (Sul valore diagnostico delle differenze termometriche tra le due ascelle.) D. Miotto.

150. Electrotherapy in Amenorrhea.—Rigamonti applies one pole with the galvanic current to the sacrum and the other to the hypogastrium, and reports three cases of amenorrhea in which this treatment proved effectual although the trouble was of a different origin in each. In one, menstruation ha been arrested by a fright, in another the condition suggest possibly incipient tuberculosis, and in the third case there was chlorosis. The patients were from 19 to 28 years old, and the symptoms from the suspended menstruation were about the same in all. From thirty to forty sittings were given, daily at first and then at longer intervals.

Policlinico, Rome

October 1, XVIII, No. 40, pp. 1257-1288

153 Functional Importance of the Interstitial Cells in the Testicle. (Ulteriori ricerche sperimentali sul valore funzionale delle cellule interstiziali del testicolo.) V. Barnabo.
154 Intravenous Injections of Mercuric Chlorid in Treatment of Puerperal Fever and Tetanus. (Due casi di setticoemia puerperale guariti con le iniezioni endovenose di sublimato corrosivo.) O. Rigamonti.
155 Epidemic of Laryngitis Stridulus of Influenzal Origin. V Fraschetti.

Riforma Medica, Naples

October 2, XXVII, No. 2, pp. 1093-1120

156 *Successful Resection of Scapula for Enchondroma. (Resezione subtotale della scapola per voluminoso encondroma. Guarigione.) L. De Gaetano.

156. **Resection of the Scapula.**—Gaetano reports excellent functional outcome in a young man whose scapula was resected on account of a large enchondroma two years ago. The functioning of the arm is scarcely interfered with, the patient being able to lift a 200-pound weight. He knows of twenty-seven operations of the kind on record, which he tabulates, the outcome being constantly favorable since 1870, with exception of one case in which the patient succumbed to metastasis of the sarcoma.

Hygiea, Stockholm

September, LXXIII, No. 9, pp. 1025-1104

157 *Gunshot Wounds of the Heart. (Om skottskador på hjärtat.) S. Sjövall.
158 *Coincident Similar Mental Disease in Twins. (Fall af psykos hos tvillingar.) E. Göransson.
159 *Whooping-Cough in Connection with Spasmophilia. (Om pertussis och pertussisliknande katarrer samt deras förhållande till den spasmofila diatesen.) W. Wernstedt.
160 **Torsion of the Spermatic Cord. (Om torsion of sädessträngar.)* O. Löfberg.

157. **Gunshot Wounds of the Heart.**—Sjövall devotes nearly ten pages to tabulation of the details in thirty-one operative cases of this kind, including one from his own experience. These data show that the patient stands a much better chance when a proper operation is done than under expectant treatment. In sixteen cases apparently complete restitution followed suture of the wound.

158. **Psychosis in Twins.**—Göransson reviews the fifty cases on record of a similar form of mental impairment in twins, and reports a case of the kind from his own experience. His patients were women 23 years old, and the psychosis came on suddenly in both with less than two months' interval. It was of the confusional type with agitation in one and stupor in the other, and with complete recovery in two or three months.

159. **Whooping-Cough and Spasmophilia.**—Wernstedt has been examining children with pertussis during a recent epidemic to determine the electric excitability. He found a constant connection between the severity of the spasmodic coughing and the reaction to the electric tests. His findings suggest a close connection between the spasmophilic diathesis and the pertussis, and he thinks that both the former and severe forms of the latter are an indication of a neuropathic constitution.

160. **Torsion of the Testicle.**—Löfberg reports three cases and refers to seventy-six on record. Two of his patients were infants less than a year old, the third a man of 28; the torsion was the result of trauma in this case. Castration had to be done in 76 per cent. of the cases on record.

Ugeskrift for Læger, Copenhagen

October 5, LXXIII, No. 40, pp. 1451-1484

161 *Chronic Appendicitis. (Undersøgelser over kronisk Appendicitis.) V. Scheel.
162 Vaccine Therapy of Alveolar Pyorrhea. (Pyorrhoea alveolaris og dens Behandlung med Injektioner af autogen Vakcine.) O. Drescher.

161. **Chronic Appendicitis.**—Scheel has examined the appendix after extirpation in 164 cases. He found signs of chronic inflammation in fifty-eight of the eighty-five cases in which the appendicitis was supposed to be merely an acute lesion, and he is inclined to think that in most of the so-called chronic appendicitis cases, the trouble was inflammation of the cecum as well. Inflammation of the cecum has many ups and downs, and there may be long intervals of latency. It is possible that the cure ascribed to the appendectomy in many instances may have been merely the effect of the rest in bed and dieting, or it may have been coincident with a spontaneous remission.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

Lehrbuch der Hyperämiebehandlung akuter chirurgischer Infektionen. Theorie und Praxis für Aerzte und Chirurgen. Von Dr med. Eugen Joseph, Privatdozent der Chirurgie an der Friedrich-Wilhelms-Universität Berlin. Mit einem Vorwort von Prof. August Bier. Paper. Price, 7 marks. Pp. 283, with illustrations. Leipzig: Dr. Werner Klinkhardt, 1911.

Dental Disease in Its Relation to General Medicine. By J. F. Colyer, L.R.C.P., M.R.C.S., L.D.S., Dental Surgeon to Charing Cross Hospital and the Royal Dental Hospital, England. With the Assistance of Stanley Colyer, M.D. (Lond), M.R.C.P., D.P.H. Cloth. Price, $1.60 net. Pp. 189, with 62 illustrations. New York: Longmans, Green & Co., 1911.

The Report of the Philadelphia Milk Show. Its Organization and Management and a Description of the Exhibits. Edited by Arthur Edwin Post, Executive Secretary. Paper. Dr. Joseph S. Neff, Chairman of the Executive Committee, 1912 Chestnut Street, Philadelphia. Pp. 123, with illustrations. Published by the Executive Committee, 1911.

Die Lungensaugmaske in Theorie und Praxis. Physikalische Behandlu[illegible] mit. Keuchhusten, Asthma, [illegible] Zusammenfassende Ergebniss[illegible] E. Kuhn. Paper. Price, 1 mark. Pp. 25, with 24 illustrations. Berlin: Julius Springer, 1911.

The Origin of Life. Being an Account of Experiments with Certain Superheated Saline Solutions in Hermetically Sealed Vessels. By H. Charlton Bastian, M.D., F.R.S., Emeritus Professor of the Principles and Practice of Medicine, University College, London. Cloth. Price, $1.50. Pp. 110. New York: G. P. Putnam's Sons. 1911.

Transactions of the American Association of Genito-Urinary Surgeons. Twenty-Fifth Annual Meeting Held at the Hotel Astor, New York City, May 31-June 1, 2 and 3, 1911. Vol. VI. Paper. Pp. 198, with illustrations. Published for the Association by Frederick H. Hitchcock, 105 W. 40th Street, New York.

The Way with the Nerves. Letters to a Neurologist on Various Modern Nervous Ailments, Real and Fancied, with Replies Thereto Telling of Their Nature and Treatment. By Joseph Collins, Physician to the Neurological Institute of New York. Cloth. Price, $1.50. Pp. 313. New York: G. P Putnam's Sons, 1911.

Movable Kidney, Its Etiology, Pathology, Diagnosis Symptoms and Treatment. By William Billington, M.S. (Lond.), F.R.C.S., Senior Surgeon to Out-Patients, Queen's Hospital, Birmingham. Cloth. Price, 7 shillings 6 pence net. Pp. 167, with illustrations. New York: Cassel & Co., 1910.

The Fight Against Tuberculosis and the Death-Rate from Phthisis. By Karl Pearson, F.R.S., Galton Professor of Eugenics in the University of London. Questions of the Day and of the Fray. No. IV. Paper. Price, 1 Shilling. Pp. 35. London: Dulau & Co., 37 Soho Square, W., 1911.

Microbiology. For Agricultural and Domestic Science Students. Edited by Charles E. Marshall, East Lansing, Mich., Professor of Bacteriology and Hygiene, Michigan Agricultural College. Cloth. Price, $2.50 net. Pp. 724, with 128 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

Eleventh Annual Meeting of the National Civic Federation. New York, Jan. 12, 13 and 14, 1911. Welfare Workers' Conference. Paper. Pp. 385, with illustrations. New York: The National Civic Federation, Metropolitan Bldg.

The House-Surgeon's Vade-Mecum. By Russell Howard, M.B M.S., F.R.C.S., Surgeon to Poplar Hospital, London. Cloth. Price, $2.10 net. Pp. 511, with 142 illustrations. New York: Longmans, Green & Co., 1911.

A Mother's Guide. A Manual for the Guidance of Mothers and Nurses. By Francis Tweddell, M.D., Alumnus, Bellevue Hospital New York. Cloth. Price, $1. Pp. 182. New York: James T. Dougherty, 1911.

Transactions of the New Hampshire Medical Society. At the One Hundred and Twentieth Anniversary, held at Concord, May 11 and 12, 1911. Cloth. Pp. 241. D. E. Sullivan, Secretary, Concord.

Fortieth and Forty-First Reports of the Board of Directors of the Connecticut Industrial School for Girls. Presented to the General Assembly at Its Session in January, 1911. Paper. Pp. 63.

Technik der klinischen Blutuntersuchung. Für Studierende und Aerzte. Von Dr. A. Pappenheim, Berlin. Paper. Price, 2 marks. Pp. 55. Berlin: Julius Springer, 1911.

Forty-Sixth Report of the Providence Hospital, Washington, D. C. For the Fiscal Year Ending June 30, 1911. Paper. Pp. 74, with illustrations.

Annual Report of Saginaw General Hospital, Saginaw, Mich. Paper. Pp. [illegible] with illustrations.